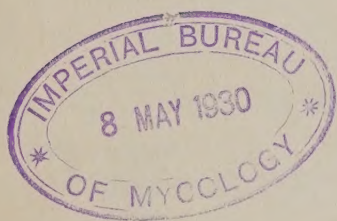


18/E



CONTENTS FOR JANUARY, 1927.

INDEX TO ADVERTISERS.

<i>Illustrations.</i>	
Life History of the Thrip ..	8
Codlin Moth Control Graph ..	46
<i>Subjects.</i>	
Australian Fruit in England ..	14
Australia's Fruit Production ..	46
Apple Industry; Time to Harvest; Marketing Problems ..	27-28
Canned Fruits Industry; Preservation of Fresh Fruits; Prospects; Precautions Against Brown Rot ..	30-31
Citrus Notes: Grower Abandons Cultivation; Florida Crops ..	34-35
Coming Season Reviewed in Australia and N.Z.	15-19
Conserving Soil Moisture ..	48
Co-operation in California ..	11
Current Moth, The ..	42
Dried Fruits: Sulphuring of Apricots and Peaches; Treatment for Anthracnose ..	21-22
Editorial ..	7
Electrical Treatment of Crops ..	37
Empire Marketing Board ..	36
Export Fruit Control ..	12
Fighting Insect Pests ..	9
Imperial Fruit Show ..	7
Markets: British and Australasian ..	41-42
New Lemon-Orange ..	37
New South Wales: Organisation; Codlin Moth Regulations; M.I.A. (see also p. 15) ..	29-30
New Zealand: Crop Prospects; News and Notes (see also p. 17) ..	26
Origin of the Cherry ..	47
Poultry and Beekeeping ..	39-40
Queensland: The Season; Pineapple Growing; Continuance of the C.O.D. ..	10-11
South Australia: Waikerie Settlement; Citrus Growing (see also p. 16) ..	32-33
Subscription Payments Received ..	xvi.
Tasmania: Orchard Operations; Season's Prospects; News and Notes (see also p. 19) ..	43-44
Thrip: A Destructive Insect ..	8-9
Tomato Growing: Grading Regulations ..	33
Victoria: Cool Stores Meetings; Notes and Prospects (see also pp. 18 and 44) ..	20
Western Australia: Fruit-growers' Conference; Seasonal Work; Shows and Notes (see also pp. 17 and 44) ..	13-14

<i>Books, Publications—</i>	
"Garden Lover," Bank House, Bank Place, Melbourne, p. xxi.	
Whitecombe's Australian Gardening Handbooks, Hort. Press Pty. Ltd., Bank House, Melbourne, p. 3.	
"Fungus Diseases of Fruit Trees," Fruit World Pty. Ltd., Bank House, Melbourne, cover ii.	
<i>Canning Machines—</i>	
Heine, John and Son Ltd., Sydney, N.S.W., p. xx.	
Tombs & Howcroft Pty. Ltd., 369 Post Office Place, Melbourne, p. xxii.	
<i>Cases—</i>	
"Softwood" Overseas and Interstate Trading Co. Ltd., 52 Market St., Melbourne, p. 45.	
"Air Free" Case, F. Cave & Co. Pty. Ltd., Western Market, Melbourne, p. 3.	
<i>Cold Storage—</i>	
Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii.	
<i>Dehydration—</i>	
Latham, D. J., Sun Buildings, Queen St., Melbourne, p. 1.	
"Simplex" Clyde Engineering Co. Ltd., Granville, N.S.W., p. 48.	
<i>Dusting Machines—</i>	
Atomol Dusts Ltd., Dumphries Place, Adelaide, p. xi.	
"Niagara" Duster Gun, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.	
<i>Fruit Buyers—</i>	
Brooke, C. M., & Sons, Whiteman St., South Melbourne, p. xvi.	
<i>Fruit Tree Suppliers—</i>	
Brunning, John, and Sons, Somerville, cover 6.	
Ferguson, F., & Son, Australian Nurseries, Hurstville, N.S.W., p. xviii.	
Picnic Point Nurseries, Bairsdale, Vic. (C. J. Goodman), cover ii.	
Two Bays Nurseries, Moorooduc, Vic., p. ix.	
<i>Fruit Graders—</i>	
"Lightning," Lightning Fruit Grader Co., 5 Hoddle St., Collingwood (Vic.), p. 23.	
<i>Fumigation—</i>	
"Cyanogas," Buzacott & Co. Ltd., Sydney, p. ix.	
"Vitamite," Lincoln & Blunt, 191 Liverpool St., Sydney, p. x.	
<i>Mannres, Fertilisers, &c.—</i>	
Sulphate of Ammonia, Australian Sulphate of Ammonia Propaganda Committee, 360 Collins St., Melbourne, p. 22.	
<i>Motor Cars and Trucks—</i>	
Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii.	
<i>Orchard Requisites.</i>	
McPherson's Pty. Ltd., 582 Collins St., Melbourne (Vic.), p. 3.	
<i>Patent Attorney—</i>	
Sev. A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne, p. 40.	
<i>Poultry—</i>	
Karawood Poultry Spice, Agents all States, p. 38.	
"A.P.T.O." (Australian Poultryman's Trading Assn.), Sydney, p. 39.	
<i>Refrigerating Machinery—</i>	
Werner, R., & Co. Pty. Ltd., Richmond, Vic., cover iii.	

<i>Roller Conveyors—</i>	
J. Fielding & Co., Melbourne, p. iv.	
Schumacher Mill Furnishing Works Pty. Ltd., Port Melbourne, p. xxiv.	
<i>Spray Material—</i>	
"Blue Bell" Arsenate of Lead, 31 Queen St., Melbourne, Vic., p. iii.	
"Black Leaf 40," Tobacco By-Products and Chemical Corp. Inc., Louisville Ky., U.S.A., p. xvi.	
"Carlton" Arsenate of Lead, F. R. Mellor, 440 Elizabeth St., Melb., p. 1.	
"Cloudform" Dusts, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.	
"Elephant" Brand, Jacques Pty. Ltd., Madden Grove, Burnley, Vic., p. 4.	
"Maccol" Miscible Oil, A. H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xiii.	
"Gargoyle" Spraying Oil, Vacuum Oil Co. Pty. Ltd., cover i.	
"Swift's" Arsenate of Lead, H. W. Peabody & Co., Sydney and Melbourne, p. viii.	
Dusting Powders, Atomol Dusts Ltd., Dumphries Place, Adelaide, p. xi.	
"Qua-Sul," Lincoln and Blunt, 191 Liverpool St., Sydney, p. x.	
"Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.	
"Black Leaf 40," Producers' Distributing Soc. Ltd., Melbourne, p. xiv.	
Berger's Arsenate of Lead, Neptune Oil Co. Ltd., River St., Richmond (Vic.), p. xxi.	
"Yarra" Fruit Sprays, Parsons & Jacques, 6 Patterson St., Abbotsford, Vic., p. xviii.	
<i>Spray Pumps and Guns—</i>	
"Amazon" 6-Ply Spray Hose, F. R. Mellor, 440 Elizabeth St., Melb., p. 1.	
Alumino-Thermic and Metal Sprayers Ltd., 247 George St., Sydney, N.S.W., p. xiv.	
"Bave-U" Power Sprayer, Russell & Co., Box Hill, p. xviii.	
"Bave-U" Power Sprayers, N.S.W. Agent, E. Robinson, 333 George St., Sydney, p. 14.	
"Cooper," Cooper Engineering Co. Ltd., 129 Sussex St., Sydney and 350 Spencer St., Melbourne, p. 2.	
"Rosebery" Spray Pump, A. H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xiii.	
"Nuffend" Spraying Outfit, Metters Ltd., Rundle St., Adelaide, S.A., p. xv.	
Vermorel "Eclair" Sprayer, Cooper Pegler & Co. Ltd., 24d, Christopher St., London, E.C.2, p. 31.	
<i>Strapping Fruit Cases—</i>	
"Griplock," Wire Strapping, Jas. Henty & Co., 499 Lit. Collins St., Melbourne, p. 1.	
<i>Steel Fencing Posts—</i>	
Commonwealth Wool and Produce Co. Ltd., Sydney, p. xiv.	
<i>Stencilling Inks—</i>	
Caldwell's Pty. Ltd., Yarra Bank Rd., South Melbourne, p. 12.	
<i>Tree and Stump Pullers—</i>	
Trawhella Bros., Trentham, Victoria Stumping Jacks, etc., p. xlii.	
"Digger," Quick Manufacturing Co., 75 Pender St., Thornbury, p. 1.	
<i>Wrapping Paper—</i>	
Caro and Caronite, Dennys, Lascelles Ltd., 422 Collins St., Melbourne, p. 47.	
Californian Fruit Tissue, Chas. R. Gabb & Co., 88 Franklin St., Melb., p. 2.	

FRUIT TREES

The successful Orchardist is the man
who has things ready at the right time

**The Right Time to Order is Now
for 1927**

There are Huge Stocks to choose from

**Apples, Pears, Peaches, Plums, Apricots, Quinces,
Figs, Cherries, Oranges, Lemons, Mulberries, etc.**

FRUIT TREES EXPORTED TO ANY PART OF THE WORLD

Catalogs, etc.

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES
Somerville, Victoria, Australia

Phone : Somerville 11

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried
Fruits Industry of Australasia.

Published the First of each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printer's MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on application to

our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place
off 410 Collins Street, Melbourne.

NEW SOUTH WALES — 8 Bridge
Street, Sydney.

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide. Tasmania: Saunders & Co., Murray Street, Hobart. Western Australia: D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth. Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane. New Zealand: Gordon & Gotch Ltd., Wellington. Dunedin and Auckland. Great Britain: Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.
Tasmanian Director: HON. L. M. SHOO-BRIDGE, M.L.C.

TEN THOUSAND TONS OF APPLES A YEAR.

Ten thousand tons of Apples is the estimated annual output of the Homestead Orchards, which are 20 miles south of Johannesburg, South Africa. —"S.A. Fruit Journal."

CANADIAN APPLE SUMMARY.

The Canadian commercial Apple crop shows a 3 per cent. drop under the August estimate and indications now point to a yield 96 per cent. or 2,771,900 barrels as compared with 2,883,400 barrels in 1925. (Calculate three bushels to the barrel.)

OREGON APPLE CROPS.

It is reported that severe rain storms in the Hood River country, Oregon (U.S.A.), have caused considerable losses to the Apple crops. This district recently forwarded 101 cars of Apples in one day.

PERSONAL.

Mr. Arthur G. Caldwell, sales manager of the Anderson-Barngrover Co., San Francisco, U.S.A., recently visited Australia. During his stay of about one month, he visited most of the leading Australian canneries,

Editorial Chats



Thoughts for 1927.

THOUGH Christmas has passed, the season for goodwill has not, and as we stand at the dawn of another year we take courage and face all that lies in front of us with that spirit of faith and endurance that is so characteristic of the British race.

From the mistakes of 1926, we can learn valued lessons; from our successes we see the way clearly for greater victories. For despite all the vicissitudes of this changeful world, we remember the rising generation and would strive to set an example to the girls and boys who are growing up around us.

The man on the land is still the vigorous pioneer in this Australia of ours. Of "ours" did I say?—Yes, "ours" when we possess this priceless heritage, for as yet we are but a handful of people on this vast and fertile continent. And of all the land workers there is none more deserving of commendation than our sturdy fruitgrowers—men and women who face cheerfully the vagaries of the seasons, and sometimes have to stand by and see their year's labor lost by a visitation which no human power can arrest. Yet, as we write, bushfires are sweeping over the valley of the Murrumbidgee, in N.S.W., and men who had their Wheat bagged and ready for delivery on rail, have seen it all go up in smoke, and thousands of sheep and cattle have perished; only by great labor and devotion have homesteads been saved.

Truly our sons and daughters of the soil are made of splendid material. For all sufferers in these calamities, and for those who have lost through the visitation of thrips and other pests there should be a swift response from a sympathetic Government, and the monetary advances which are necessary to tide them over the period of loss should be speedily and cheerfully forthcoming.

Nothing can deter these heroic men and women. For, with the courage which is the pride and glory of the indomitable British race, they will start anew and will conquer. No wonder then that the young people who come from such homes win their way to places of eminence in the

world of science, arts and religion.

So this is my New Year chat with you all, dear readers—Courage, faith, tolerance, patience, kindness and victory.

There are problems ahead in the matter of organising this complex industry of ours. But can we not face them with courage and courtesy? And where growers differ on vital matters of policy, let each give credit to the other for the sincerity of purpose and courage of conviction.

We do not want all-embracing panaceas for the ills of the body politic. There is no "cure-all" medicine. Let us lay our foundations securely in successful local organisation, merging into larger groups as successes are gained. We certainly need the inspiration of a splendid ideal, but we must not neglect the plain practical duty which lies right at hand.

The best services of this organisation are ever at the disposal of growers for the furtherance of every worthy forward move. We count it a privilege to be of service.

May 1927 see the foundations securely laid, in a spirit of whole-hearted co-operation for those enterprises which will lead to the up-building of our ever-expanding and important national industry of fruit producing.

CONTROL BOARDS CONDEMNED.

"Expensive Overlapping."

Messrs. H. H. Smith, M.L.C., and W. Tyner, M.L.C., of Victoria, who have just returned from a visit to the United Kingdom and Europe, in an interview, emphasised the value of good grading and packing for Australian fresh and canned fruits exported.

The Control Boards for dairy produce and dried fruits were expensively administered and were not rendering the right service to Australian producers. There was no co-operation between these Control Boards and the Agents-General, nor with Australia House. There was much expensive and needless overlapping.

"In your business or professional life, you rise or you fail according to your ability to get along with human beings, to command their respect, and to create a spirit of co-operation."—John Grier Hibben, President Princeton University.

IMPERIAL FRUIT SHOW.

Great Success in London.

THE Imperial Fruit Show, held at Holland Park, London, from October 29 to November 6, was a splendid success. Fruit was displayed by British and Dominion growers, and formed an imposing array. As mentioned elsewhere in this issue, Ardmona (Vic.), secured honors in the canned fruits section. Fruit from the British Isles scored in many sections, Canadian Apples and South African Grapefruit also securing awards.

The Empire Marketing Board's £100 cup, for the best window display in London in association with the show, was won by Messrs. W. B. Shearn Ltd., Tottenham Court Road, where every kind of fruit was displayed. A trans-Atlantic liner was shown loaded with Empire fruit, gift baskets were artistically piled with various fruits, and around the first-floor windows the slogan, "The Pathway to Health," and "British Empire Fruit," were built up of Apples and Oranges. A huge banner right across the thoroughfare advised passers to "Buy British Empire Fruit at Shearn's."

EARWIG PARASITES.

Dr. R. J. Tillyard, director of the Cawthron Institute of Scientific Research, Nelson, N.Z., who is returning from England, is bringing with him 250 parasites of earwigs, intended to destroy earwigs in New Zealand. Cable messages state that owing to the scarcity of parasites this year, Dr. Tillyard had to search Europe and pay 1/- each for them.

He is also bringing out several kinds of insects which, it is hoped, will destroy blackberry brambles. Before they are liberated they will be tested to ascertain their effect on other plants.

FRUIT FLY INFECTION.

Upper Hawkesbury District Infested.

The Government Fruit Inspector for the Upper Hawkesbury (N.S.W.) district (Mr. Spinks), reports that orchards there are heavily infested with fruit fly, which in common with other insects seems to be very active this season. Growers did not use sufficient fruit fly traps. The destruction of Loquats and Mandarins has been ordered. In fact, growers are considering grubbing out Loquat trees, as these assist in carrying over the fly. The picking of all Mandarines before October 1 is also mooted.

THRIP—A Destructive Insect

A Study in Life History, and Suggestions for Control.

Summary of a Paper Read by Reginald Kelly, F.E.S., before the Field Naturalists' Club of Victoria.

THERE are nearly 150 varieties of thrips, all with varying habits and favoring distinct plants.

Life History.

The eggs are laid generally on the under part of the leaf of the principal food plant, sometimes inserted into the tissue, partially or wholly, sometimes just adhering to the surface around the edge of the leaf, protected by the marginal vein, and when thus placed look like a row of minute pearls, but when closely examined are found to be reniform. When inserted into the tissue they have on the leaf a somewhat similar effect to the punctures made in feeding. In the latter case by the absorption of the chlorophyll, the spots become white, and, when many, they cause a shrinkage and curling of the leaf, sometimes total withering. By the insertion of the egg minute reniform callouses are formed, but the leaf is not so much injured, as its preservation is necessary to that of the egg, and probably forms the first food of the larvae.

The Period of Incubation

is from a fortnight to three weeks, varying with temperature. In the larval stage it progresses through at least, two moults, feeding gregariously on the more tender parts of the leaf. The larvae of most species are white, but some are very brightly colored—orange or crimson. Of the latter, I took many from the flowers of the American tree *Catalpa bignoniensis*, and they were probably larvae of a species of *Haplothrips*. The first moult takes from three to five days from emergence, and after a like or slightly longer period the larvae moult again, and enters upon its prepupal or nymph stage. The discarded skin is found often attached to the plant. As far as my observation goes, it is usually thrown off by a vertical split, vest fashion, although I have seen some moults which have been vacated at the head.

There are two pupal stages which may moult differently, or the larvae different from the pupa. In the prepupal stage there is movement; the pupal or later stage is more, but not altogether, quiescent, and is effected by light and other forms of irritation. The change from the prepupa to the pupa is by another moult—obvious stages of metamorphosis.

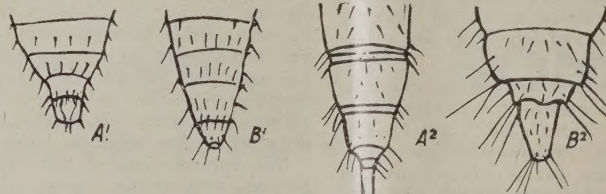
I have prepared a rough time-table of the life-history from my own observation, which I have checked with such records as I could obtain. It must be remembered that, as the hatching and subsequent processes are produced extracorporeally, temperature and moisture have a hastening or delaying effect, and there is variation as to time in species, and particularly genera. The observations are principally on species of physothrips and heliothrips, particularly haemorrhoidalis, an ubiquitous species, probably of American origin.

Table of Life Cycle.

	Days.	
	Min.	Max.
Incubation of egg . . .	14	21
To first larval moult . . .	3	5
„ second larval moult . .	3	5
„ first pupal moult . .	2	3
„ second pupal moult . .	2	3
„ impregnation	2	2
„ gestation	1	1
	27	40

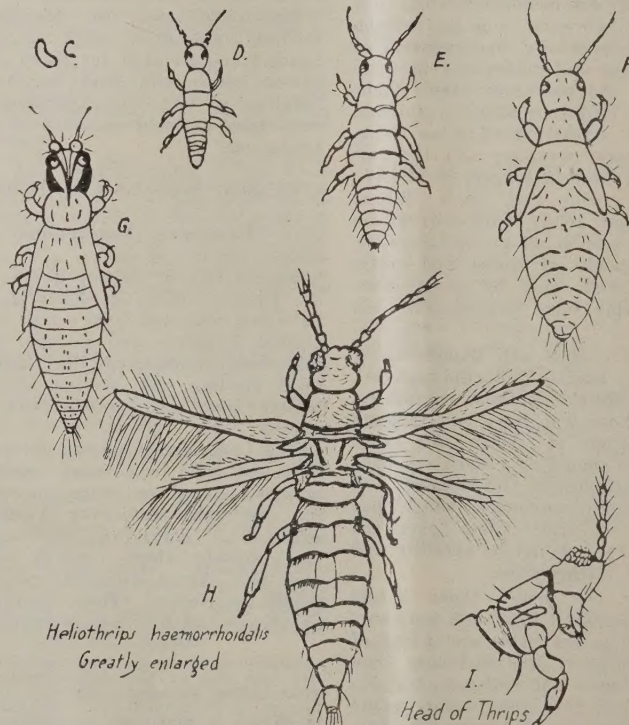
So that from deposit of egg to deposit of egg may be fixed at one month.

I have no reliable data from my own observations as to the life of an adult, but it has been variously estimated by observers, and can be taken under favorable circumstances at from 90 to 100 days, during which period it may produce eggs at the rate of five or more daily for two months.



Typical termination of Abdomen in TEREBRANTIA. (A') male (B') female

Typical termination of Abdomen in Tubulifera (A'') male (B'') female



(C) Egg (D) Larva, early stage (E) Larva, later stage (F) Prepupa (G) Pupa (All greatly enlarged)

Some late adult females hibernate and produce a small brood in the early spring, and from these is produced the next summer swarm. It is apparent, then, that a mild winter and a warm, humid spring will be most productive of thrips.

The study of thrips is not an easy one; exact identification and most observation must be done by microscope. There are many phases to be studied. One is the question of flight. Ordinarily these insects leap very quickly, but rarely use their beautifully-fringed wings. It is very doubtful if they can fly far; some species, indeed, are apterous. There is also the fact of parthenogenesis, which renders many investigations into life-history abortive. As these insects sometimes breed asexually, specimens of such broods under observation are sterile, and eggs infertile afford no results; time is wasted, and the observations have to be remade, with possibly like failures.

Males in many species are rare, and parthenogenesis is generally considered characteristic of the order.

To Fight the Pest.

Whenever the subject of thrips has been mentioned I have almost invariably been asked how to get rid of them. That is not my branch of the work, but of the economic entomologist. If, however, the destructive passion dominates you, I will point out a deduction to be drawn from this paper. Do not wait till the enemy is in force; attack the few survivors holding the winter trenches. Destroy the progenitors of next year's hosts. They hide in the ground. Keep your garden clean; expose them to the cold of winter. They infest old leaves and flowers, stems and bark. Apply your cleansing remedies to these. Burn dead leaves and rubbish; strike when the enemy is weak.

The damage done by garden and orchard thrips is principally to the pistil. The insect perforates and sucks the style, the flower shrivels, and fruit fails to set. They also attack the tender foliage, particularly that of Dahlias. In investigating and determining native species I am taking records of those that are leaving the hard food of the bush for more tender and succulent cultivated plants. It will be obvious that if this takes place, as in all cases where the food supply is better and more plentiful the species will thrive and multiply. This also applies to introduced species coming into a more congenial environment. It is quite possible that this theory may account for the number of terebrantia in my collection. Some of them may be wide variants of introduced species.

The dominant species of thrips that has been doing damage this season is *Thrips imaginis*, a native species identified by Mr. R. S. Bagnall, the leading English thysanopterist, in May, 1926. It is a close ally of the introduced species *Thrips tabaci*, for which it has long been mistaken. Some thrips have several broods in a season, and some only one. This is a question that I am now closely investigating, and also the periodicity of parthenogenetic breeding.

The Commonwealth Council for Scientific and Industrial Research has been granted the sum of £250,000 by the Federal Government to study problems affecting primary producers.

The study of the Thrip scourge would be worth while.—Editor "Fruit World"

FIGHTING INSECT PESTS.

Cherry Green Beetle.

These green beetles have appeared in some orchards in thousands, and have completely denuded Apple and Cherry trees of every leaf. If they are noticed on the trees, spray immediately with arsenate of lead, 1 in 25.

Rutherglen Bugs.

These bugs are exceedingly plentiful during the hot weather, and are very destructive to Potato and other crops. They also attack Cherries, Apricots, Grapes and Tomatoes. They are small insects, the body being of a light greyish brown, but often nearly black. The eggs are deposited either amongst rubbish and weeds or under the soil.

Spray with benzole emulsion, tobacco water, phenyle, or tar water. Smudge fires are also recommended.

Painted Apple Moth.

Caterpillars of this destructive moth are now becoming exceedingly numerous in orchards. They often destroy young Apples and other fruits, also the fruit spurs. Spray with arsenate of lead.

Peach Aphids.

These insects are still fairly numerous. Spray with nicotine sulphate or black-leaf 40.

Woolly Aphis Parasite. (*Aphelinus mali*.)

These parasites are doing excellent work in woolly aphis infested orchards. No time should be lost in applying to the Agricultural Department for a supply of the parasites.

Scale Insects.

The young of mussel, san jose, black or olive scales, are now hatching. Spray at once with nicotine sulphate, or black-leaf 40. For scale on citrus trees, red oil or tobacco could be used.

Citrus Aphids.

The black aphids are still to be found on the young growths of Citrus trees. They cluster on the tips and by sucking out the sap, cause them to turn black and die. They are easily controlled by any of the tobacco sprays.

Holy or Cross Bug.

The name given to the insect is owing to the cross-like marking on the wing-cases. These insects are now appearing in some Citrus orchards. The insects are provided with strong beaks, which they insert into the young shoots of Orange, Lemon and other trees and suck up the juices, causing the twigs to become black and to die.

To destroy these insects, spread sheet, newspaper or an old piece of blanket on the ground and shake tree over it. This should be done in the early morning, before the insects become active. Spray with kerosene or benzole emulsion, tar water or phenyle spray.

The Light-brown Apple Moth.

During the hot months, the larvae of these moths are numerous. At times they do much damage to young Apples, Quinces, Pears and other fruits. Spray with arsenate of lead, 1 lb. to 25 gallons of water.

Codlin Moth.

See "The Fruit World," November, 1926.

Red Spider (Bryobia Mite).

These pests are now numerous. Spray trees thoroughly with red oil or lime sulphur. Apple trees particularly should be sprayed.

RESEARCH INTO INSECT PEST PROBLEMS.

Following the requests for research into the life history of the thrip and other orchard and farm pests, the Council for Scientific and Industrial Research has decided to obtain a thoroughly competent, full-time entomologist, at a high salary, to enquire into, organise and supervise methods of attack on insect pests. He will gather round him a body of trained men to assist him. They will all be of such a type that, if it is at all possible for scientific research to solve the outstanding problems, they should be able to do it.

This policy has been approved by the Minister (Senator Pearce), and a powerful research organisation will be built up for the assistance of the fruitgrowing and other primary industries. Growers will be glad to learn that the thrip pest will probably be one of the first to be attacked.

I hate to see things done by halves. If it be right, do it boldly; if it be wrong, undo it.—Gilpin.

Queensland

The Season : Pineapple Growing : News and Notes.
(By Our Correspondent.)
Continuance of the C.O.D.

THE CONTINUATION of drought conditions, which have prevailed with unabated intensity over the greater part of the State, have been very severe in effect upon fruit crops generally. Present supplies of such varieties as are obtainable are inferior, and it is recognised that rainfall at this late date can have but little if any beneficial influence on the quality of temperate fruits. Citrus have dropped at least half of their crop, indicating a shortage for the coming season. Not only fruit areas have been affected, but field crops, including vegetables of all kinds are very limited. Exceptions are notable where irrigation is applied, but in selecting land in normal times the matter of a water supply is barely considered.

Rutherglen Bug.

Several areas have been harassed by insect pests, amongst which the Rutherglen bug figured prominently and rather persistently. Various formulae have been submitted as efficacious against this destructive pest, but on the whole none of them were found satisfactory. Amongst varied applications made by the writer, calcium cyanide applied with a dust-gun late in the afternoon was found to be fairly effective, but most economical and all round satisfactory results were obtained by applications of Cloudform tobacco dust. Dusting in late afternoon or evening as required, practically eliminated the bug and protected the attacked plants from any serious injury.

Orchard work is practically at a standstill; spraying cannot be considered owing to the condition of the trees—though in anticipation, numerous enquiries are being made regarding the supplies of Banana suckers for planting when weather conditions improve. Though the prospect of

Pineapples

is much better than has prevailed for years, little, if any, extension in area is being effected.

A suggestion has been published in favor of the introduction of plants from overseas, with the prospect of new varieties or increased vigor in the old ones. That the original stock for Hawaii and Africa was supplied by this State (and which is now providing supplies for Egypt), is overlooked, as is also the fact that a collection of all reputable varieties was introduced some 40 years since,

and the few kinds now in cultivation represent the survival of the fittest. During the interim the only valuable new varieties are those which have been raised in this State, but it must be admitted that the majority of growers are indifferent in the matter of improvement or even maintenance of characteristics by selection. This feature received special reference in the "Fruit World" some four years since, one effect of such reference being to stimulate (after liberal time for assimilation) the Department of Agriculture into belated minor action.

The usual practice amongst Pine growers is to take suckers for planting from run-out plots instead of selecting from the most vigorous and productive of shapely fruit. That the longevity of the average plantation has been reduced by 50 per cent. is not occasion for surprise; it could hardly be otherwise.

SYDNEY:

Fruit Commission
Merchants Agents

S. & M. Greenberg

No. 1 Store
Fruit Markets, Sydney
Also at Melbourne Markets

Tasmanian Shipping No. 161.
Victorian Shipping No. 42.

PROMPT RETURNS

The Fruit Marketing Organisation, though in several important matters it has demonstrated in a negative way by showing or substantially proving what not to do, has been granted a further lease of life. Scraping the institution was certainly not going to improve matters, but would merely have landed the grower in the rut originally occupied, and though there may be still room for improvement, this can much more readily be effected through the institution than in its absence. This is recognised by those directly concerned, for a petition in accordance with the terms of the Act of 1923, was presented to the Minister on November 15, but lacking in the most essential detail; 500 signatures of registered fruitgrowers were required to demand a ballot on

the question of continuance or discontinuance of the Fruit Marketing Act. The petition was consequently informal, and certain persons acting for the petitioners were informed of this fact and given by the Minister opportunity of completion, but as three weeks have elapsed, and only 10 out of the 75 required have materialised, the petition has been ruled out of order, and the Act will operate for a further period of three years.

THE COMMITTEE OF DIRECTION OF FRUIT MARKETING.

A PETITION was presented to the Minister for Agriculture (Mr. W. Forgan Smith), on November 15, asking for a ballot to be taken on the continuance or otherwise of the Fruit Marketing Organisation Act. As, however, some of the 537 growers who signed the petition were not registered with local producers' Associations, the petition was declared informal, and, the Act will accordingly operate for a further three years.

When the Fruit Marketing Organisation Act was passed in 1923, a clause was inserted that the Act should continue in force for a period of three years from the date of its coming into operation, and should be continued thereafter by Order in Council for a further period of three years, unless, on the requisition of 500 registered fruitgrowers, a ballot on the question of continuance was demanded, and on the taking of such ballot a majority of registered fruitgrowers demanded discontinuance.

After the presentation of the petition, three weeks had been allowed for the unregistered petitioners to become registered, but only about 10 out of the 75 signatories required had registered. The Minister stated he had therefore no option but to rule the petition out of order. The fact that growers did not lodge a formal petition indicated, he said, that the majority of them were satisfied that the Committee of Direction was performing useful service on their behalf.

Referring to this matter, our special correspondent in Brisbane states, "It is most evident from details available that, though many growers are apathetic regarding the C.O.D., they do not favor its abolition. The opportunity offered was not availed of, and it is poor policy cavilling at the result."

Another correspondent writes,—"Since the amendment of the Fruit Marketing Organisation Act last session, which provided for the abolition of the compulsory co-operation clauses, and made provision to take

a poll of the growers concerned, the opposition to a lot of the Committee's actions has finished. Unless a grower belonged to what is termed a Local Producers' Association, he had no vote. In a lot of centres, the growers of good fruit will not be bothered going near this local producers' association, and take no interest in the proceedings."

At a meeting of the Metropolitan District Primary Producers' Association on December 13, exception was taken to the petition being declared invalid. It was urged that all growers should have the right to vote, whether registered or not. It was stated that other district associations had evidently neglected to attend to the petition.

In reference to the matter of continuance, Mr. W. Sam Johnson, Municipal Markets, Brisbane, writes:—"It is generally admitted that the Minister has made a tactical error in allowing certain votes to be declared informal as to whether the 'Committee of Direction' should have a further three years' lease of life or not. The Act requires that if 500 fruitgrowers petitioned the Government to have a vote taken in January, 1927, as to whether the Committee of Direction should function under the 'Fruit Marketing Act' for a further term of three years, then such a vote should be taken. The number of petitioners seems to have been in excess of 500, but for some reason, sufficient votes were declared informal to nullify the petition of the others."

"It is generally considered that the cost of taking such a vote would have been well incurred, because the matter would have been set at rest either for three years or for a much longer period, and the 535 signatories who appear to desire the wiping out of the C.O.D. would have been content to know that the voting was against them. As it now stands, there will still be malcontents and unless the C.O.D. have particularly smooth sailing, the rank of such malcontents is quite likely to be increased before the next term for voting takes place. I think it is generally conceded that the voting would have been for renewal."

"Since I first criticised the actions or statements made by the C.O.D., or by those who were responsible for its inception, some three years ago, I have consistently stated that the C.O.D. had work of a beneficial nature to perform, of benefit alike to the grower and to the State, but just as consistently I condemned their methods of compulsion, and Mr. Ranger (manager of the C.O.D.) did

well to announce at Stanthorpe some few weeks ago, that the old compulsory methods would be abandoned. The leaders of the 'League of Freedom' announced that such a decision was all that they required; had Mr. Ranger not announced the abandonment of these compulsory methods, there would have been sufficient votes in the Stanthorpe district alone to give the C.O.D. their quietus."

"As a Government Trading Scheme, the C.O.D. is slowly but surely learning wisdom; twelve months ago they announced with a blare of trumpets the reorganisation of the distribution of fruit and the salvation of the fruit industry by running five barrows on the streets of Brisbane, by their control of three fruit stalls and two retail shops, but to-day their barrows have gone and they are hanging on, like a drowning man, to two stalls and one shop. Truly, the way of the Government Trading Enterprise is hard, and as advised in your last issue, Mr. Mehan, of Stanthorpe, a most enthusiastic supporter of some of the C.O.D.'s activities, states that the expenses for efficiency are 50 per cent higher than they should be."

"However, through, and partly because of their many failures in the past, they should be able to row a course which will bring added prosperity to the grower and to the State of Queensland. At their inception, the statement was clearly made that they would not engage in trading, and their yielding to the temptation of running fruit barrows, opening up or taking over fruit stalls, and what was worse, purchasing the goodwill of fruit shops, has not redounded to their success."

A NEW LATE PLUM.

Trees 20/- each.

A new late Plum, the Victor Christian, has been developed in England, and received an Award of Merit of the Royal Horticultural Society. It is said to be large, and a good cropper, and is being distributed by Messrs. W. D. Vizard and Son. Down Hatherley, near Gloucester, at £1 per tree.

WHY so much controversy about pre-cooling? Prevention is better than certain damage. Don't let it get hot. Do you know how to keep your fruit cool from the time it is gathered to the time when the consumer receives it? If not, write W. Martin Green, Horsley-street, Bentleigh, Victoria. He will tell you.*

CO-OPERATION IN CALIFORNIA.

Voluntary Association the Vital Principle.

Short Term Agreements.

THE California Fruitgrowers' Exchange, one of the most successful growers' organisations in the world, is frequently quoted as an example of satisfactory co-operation by those wishing to organise the Australian fruit industry. In the recent discussions re the proposed fruit export control in Australia, a statement was made to the effect that the California Exchange, through its branches, entered into contracts with the growers which were binding for a very long period of years. Referring to these statements, Mr. Paul S. Armstrong, Assistant General Manager, California Fruitgrowers' Exchange, writing on November 2, says:

"While the co-operative problems affecting various commodities are different, it has been the feeling of this organisation, in so far as its own membership is concerned, that short term contracts are to be preferred."

"Contracts cease to be fully effective when either party becomes seriously dissatisfied, and a co-operative organisation such as ours can only be held together by results."

"Those of our local associations who have contracts at all with their growers, usually have them for the term of one year, withdrawal being permitted by filing notice within a specified time prior to the annual meeting. A so-called 'liquidated damage clause' is usually provided, by means of which the association may collect from a grower who has broken his contract during the season, the sum of 25 cents a box damages. These cases rarely occur. The contract between the central Exchange and its district units is a self-perpetuating one for a long term of years, but readily subject to cancellation in any yearly anniversary."

"Co-operatives in California, handling dried fruits and other commodities, have somewhat different problems, and many of them have long term contracts to avoid the necessity of frequent sign-up campaigns. Most of these, however, also have cancellation privileges."

PERSONAL.

Mr. John Patterson has been appointed Secretary of the Mildura Vineyards Protection Board, commencing duty as from December 13.

EXPORT FRUIT CONTROL

Strong Opposition in Victoria.

(A brief report of this meeting was given in our last issue—Following are added details.)

THERE was a large attendance of fruitgrowers from all parts of Victoria at the meeting, called by Dr. G. Soilleux to hear the report of the recent Interstate Conference, and to deal with the matter of the proposed Fruit Export Control Bill.

Mr. J. Tully was elected Chairman.

Dr. Soilleux read the notice and the advertisements calling the public meeting of Apple and Pear growers, and said that the attitude of the Victorian industry should be defined. He opposed the proposed Control Bill as unnecessary, and strongly objected to the press being excluded from the recent Conference. The reports, issued by a Government Department, were one-eyed and contained half-truths. He respected Mr. Lang, his co-delegate, but totally opposed his views. The artificial "control" of butter was muddled. The money proposed to be raised to pay the expenses of a Fruit Export Control Board could be better spent on research work. It was the growers' work to produce the fruit, and the merchants to sell, and there was room for the speculator to operate in the f.o.b. trade. He moved—

"That this duly convened and representative meeting of Victorian Apple and Pear growers, hereby expresses disapproval of the proposed Fresh Fruit Export Control Bill, and requests the Government not to introduce the measure."

Mr. L. J. Lipscombe (Croydon) seconded.

Mr. C. H. Jost (Quantong) asked on what basis the voting would be taken. He represented 50 growers, all opposed to the Bill.

The Chairman ruled that for the purposes of the meeting he would accept the principle of one man one vote, unless the meeting decided otherwise.

Mr. J. H. Lang (Harcourt) said that at the recent Interstate Conference he also desired the attendance of the press. The Science Council was studying pest control: the f.o.b. trade was fully safeguarded under the proposed Bill, which, if enacted, would be for three years only; 300 growers could demand a poll requesting discontinuance. The Control Board could supervise exports better than the Customs Department, and could arrange for wider provincial distribution in England. He was advised that agents in England made more out of the "consolidated

charges" than they did out of their 5 per cent. commission. The butter and dried fruits Boards were experimental. It was too early to condemn them. Growers would have the opportunity of electing their own representatives to the Board, which would surely do their best for the industry.

Mr. Kennedy (Pakenham): You did not consult the growers about the Bill until you had launched it.

Mr. Lang: It has not yet been brought into operation.

Mr. Kennedy: It would have been if you had had your way.

Mr. Lang: We desired the Bill to be approved by Parliament before the growers voted on it.

Mr. Kennedy: The way to hell is paved with good intentions.

Continuing, Mr. Lang stated that

**Brand Your
Fruit Cases and Bags**

with

**CALDWELL'S
STENCILLING
INKS**

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

too great an amount of fruit was sent to London. There should be better distribution to the other ports. The Board would act with the agents and not against them. Growers could send certain quantities to the Board itself to be dealt with as the Board thought desirable. South Africa and Canada were now proposing to act unitedly to secure reductions in the commission charges, and an Australian authority was needed here with whom negotiations could be made. The levy on growers should be 1d. per case.

Mr. Alden (Tyabb): On the f.o.b. fruit, who is to pay the 1d. per case?

Mr. Lang: The f.o.b. buyer.

Mr. C. P. Nobelius (Warragul) said that a bogey had been set up that this was compulsory pooling. It was nothing of the kind. The trouble

with the butter export was that business men were on the Board; the Board should be comprised of farmers only. Inferior fruit should not be sent to England.

Mr. Jost said his Association sold 100 per cent. of its export fruit to the f.o.b. trade. If other districts did likewise, what was the justification for the Bill?

Mr. J. W. Bailey (Narre Warren) said that reports indicated that the commercial men in England had expressed an opinion that some form of control was needed. Agents did their best for the growers as individuals, but they were not acting unitedly. He urged the meeting not to commit themselves by resolution at this stage, as the Government was supplying the growers with a statement setting out both sides of the question.

Mr. S. Brown (Pakenham) asked in what way could a Board of Control have any effect on the market?

Mr. Bailey: The fruit will be shipped under license, and information must be given where the fruit is going to.

Mr. Brown: Is it the idea that the Board will control avenues of distribution which the agents have not developed?

Mr. A. F. Thiele (Doncaster) asked who would control the vessels and their ports of destination. Certain ships were known to be good for carrying Pears. Pears were shipped because the growers had the choice of certain boats. Under a Board of Control he feared these privileges would be lost.

Mr. E. Pritchard (Harcourt) said he hated the word "control" as far as the fruit industry was concerned. Control had been attempted with Wheat, butter, wool—and what a mess had been made. Fruitgrowers in Queensland had had a rude awakening. The Queensland Premier (Mr. McCormack) had admitted that control in the various industries and the State enterprises had been a huge failure. Controls in the butter and sugar industries had increased the household expenses of the general public by 2/- a week. This was having a disastrous effect on primary industries. He would affirm that Mr. Lang had never felt the need of a Control Board in Harcourt.

Mr. Lipscombe said that all that was sought to be accomplished by the Control Board was possible under present conditions. Those who purchased f.o.b. had the right to send the fruit where they desired.

Mr. Bailey said the Board would get information from England in advance as to what quantities each centre could consume. This informa-

tion would be before the Board before the season commenced, and growers would be advised to send accordingly. Agents would be given licenses to ship to such ports.

Mr. F. Thomas (Bunyip) said the Board would consist of six growers' representatives, with a Government appointee. These men would be able to amass information not readily available to growers under present conditions. Other countries were organising along these lines, and what would become of the Australian export trade if we did not organise similarly?

Dr. Soilleux, in reply, said it was in the hands of the growers to effect their own organisation without a cast-iron Act of Parliament. The proposed Control Board was experimental and academic, and capable of doing an immense amount of harm to a developing industry. He read a telegram from Mr. Martin, Mount Barker, Western Australia, stating that whereas he had previously opposed the Bill, he was now in favor of the Bill as amended by the recent Conference.

Mr. Bailey: Mr. Jost also voted for the Bill.

Mr. Jost (warmly): I was misled. I expressed disapproval of the Bill. My vote was against Tasmania having three representatives. The present machinery is quite sufficient to properly conduct the export trade.

The Chairman: Are you ready to vote?

Voices: Yes.

While the vote was being taken, Mr. Bailey objected to Mr. J. W. Aspinall voting, as he was not a grower.

Mr. Aspinall: I am the Secretary and the duly appointed representative of the Metropolitan Fruitgrowers' Association. The Chairman has a letter from my Association opposing the Bill and instructing me to vote accordingly.

The resolution was put, and declared carried by 26 votes to 7, amid loud applause.



GIBBS, BRIGHT & CO.—See Page VI

Western Australia.

Annual Conference :: Seasonal Notes :: Shows

W.A. FRUITGROWERS' CONFERENCE.

THE Annual General Conference of the West Australian Fruitgrowers' Association was held at Mt. Barker on November 24th and 25th.

Mr. J. McNeil Martin (President) presided. Delegates were present from Mt. Barker, Bridgetown, Manjimup, Donnybrook, Spearwood and other centres. Visitors included Mr. G. L. Sutton (Director of Agriculture), Mr. Geo. Wickens (Superintendent of Horticulture), Mr. Kruger, of White and Sons, Hull.

In welcoming delegates, the President stressed the importance of making efforts for organising the industry, and gave details of pending legislation regarding the proposed State Fruit Advisory Board, and the Central Markets' Bill. He gave growers an account of the activities of Mr. Willmott and himself, who attended conference called in Melbourne to discuss the proposed Fruit Export Control Board. Both he and Mr. Willmott urged growers to support the Bill when it was placed before them. He considered that the draft Bill, as amended, could do no harm, but might in the future prove of great advantage in certain directions, such as shipping weights, better carriage of fruit, insurance, quality and packing methods—while in no way interfering in the general handling of the trade.

The following motion was then carried:—That this Conference is in favour of an organisation to control export fruit on the lines agreed to by delegates in Melbourne.

Other motions carried were:—

1. That the Government be asked to start educational orchards in Mt. Barker and Bridgetown districts.

2. That the Customs Department be asked not to insist on the wrapping of Bartlett Pears for export.

Although we are generally in favour of fruit being wrapped for export, it has been found advantageous in some circumstances to ship Bartlett Pears unwrapped.

3. That seeing the likely formation of an Export Control Board the State Government be asked to endeavour to introduce the State Organisation Board Bill this session, to assist us in organising the industry.

4. That the Fruit Shippers' Committee be asked to obtain a better policy for covering export fruit than

that used at present, particularly to cover pilfering and deterioration of fruit owing to strikes.

5. That the Commonwealth Government be asked to waive the duty on crude oil used for the manufacturing of spraying material in the Commonwealth.

6. That the Railway Department be asked to charge the same rate on fruitgrowers' requirements and requisites, such as wrapping paper, etc., as in the case of farmers' materials.

7. That the State Government be asked to start a State Nursery in order to provide orchardists with trees true to name, and on suitable stocks.

8. That in view of the repeated outbreaks of Codlin Moth in this State, this Conference consider it absolutely essential that additional inspectors should be appointed.

Mr. J. McN. Martin was re-elected President, Rev. F. Davis Vice-President, the Executive Committee, comprising: Messrs. E. Thomas, O. A. K. Sounness, T. Skinner, of Mount Barker, two members from Bridgetown, and one each from Capel and Manjimup.

SEASONABLE OPERATIONS.

Control of Fruit Fly.

ATTENTION has been drawn by the Director of Agriculture (Mr. G. L. Sutton), to the regulations under the Plant Diseases Act, which provide that where fruit fly exists in an orchard the following action must be taken:—

- (a) In spring, summer, autumn and winter all fallen fruits must be gathered from the ground once in every 24 hours, and all infested fruits from the ground and trees once in every 24 hours and destroyed by boiling—not by burying.
- (b) From September to April inclusive, an approved Fruit Fly Bait must be applied to all trees carrying fruit sufficiently mature to permit fruit fly using same as a depository for eggs.

Though the use of fruit fly traps, and foliage baiting during winter, are not prescribed by regulation, the Department strongly recommends the use of traps throughout the year, and foliage baiting in winter when spells of fine weather occur.

In regard to the pollard lure, the Economic Entomologist (Mr. J. L. Newman) states that he has found the following mixture to give the best results:—

Pollard, 8 ounces; powdered borax, 8 ounces; water, 160 fluid ounces or 1 gallon. Mix together thoroughly and allow to steep for several hours. Again mix, allow to settle, using the clear liquid. By discarding the residue the traps are kept clean.

This mixture in cool weather requires renewing every ten days. In hot dry weather every week. In emptying the flies out of the traps, care needs to be taken to see that all the flies are dead. To this end, it is advised that a bucket be carried around, containing a little kerosene oil. The contents of the traps are emptied into this receptacle, where any living flies are destroyed by the oil. By simply throwing the contents of the trap on the ground, many of the recently captured flies revive.

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt

account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

THE PROSPEROUS SOUTH-WEST.

Orchards and Sheep.

After his recent tour of the Mount Barker, Denmark, and Albany districts of W.A., the Minister for Agriculture (Mr. M. F. Troy) expressed his pleasure at the progress made. At Mount Barker on November 11 he inspected the cool store and fruit packing sheds, erected on co-operatives lines, and a monument to the enterprise of the growers there. The stores were constructed by the growers when faced with marketing difficulties during the war period. In the short space of ten years the cost of the works has been defrayed, and they are now working at a profit, which, of course, is returned to the shareholders by way of bonus. Mr. Troy further stated that on practically every orchard in the Mount Barker district sheep were now run-

ning; and the value of this side line, which was rapidly becoming one of the principal industries, was now realised by growers. In one instance, on an area of 110 acres, a grower had been running six sheep to the acre since January last, and the paddock showed very little signs of having been fed off. The wonderful progress made in dairying on the Group Settlements was also commented on by the Minister.

BRIDGETOWN SHOW.

The forty-second annual Show of the Bridgetown Agricultural Society, held on November 17, was attended by members of the Empire Parliamentary delegation, who were much impressed by this beautiful fruit-growing district. There was a record attendance, and the Show was very successful, a profit of £70 being shown.

Apples, ex Bridgetown cool store, were shown in good condition, and were favorably commented on by the judge. Cherries, Oranges, Lemons, Gooseberries, Passionfruit, and dried fruits were also shown. Among the chief prizewinners in the fruit section were W. Ausden, Rev. F. Davis, E. G. Hall, and J. Sparks.

FRUIT AT BLACKWOOD SHOW.

An interesting exhibit at the Upper Blackwood (W.A.) Show on November 11, was a display of dried fruits arranged by Mrs. M. S. Hack. The fruits were well got up, and of very high quality.

In the fresh fruit section the principal prizes were secured by Messrs. J. W. Davy (Apples), T. L. Moore (Loquats, Oranges and Lemons), Mrs. W. G. Draper (Strawberries).

RED MITE.

At a meeting of the Bridgetown Fruitgrowers' Association, on November 12, Mr. Flintoff stated that he had made an inspection for red mite of two orchards that were divided by a wire fence. One orchard had been sprayed with oil in June and was free from red mite, while the other orchard had been sprayed with lime-sulphur and was reeking with mite. The leaves were mottled with the pest.

John and Pat were friendly workmen who were constantly trying to "take the rise out" of each other.

"Are you good at measurement?" asked John.

"I am that," said Pat, quickly.

"Then could you tell me how many shirts I could get out of a yard?" asked John.

"Sure," said Pat, "it depends on whose yard you got into."

AUSTRALIAN FRUIT IN ENGLAND.

A Grower's Impressions.

Grading and Packing Good, but the Rough Handling is Harmful.

Cr. J. Jordan, ex-President of the Metropolitan Fruitgrowers' Association, recently returned from a trip to the Old Country, and in an address to the Victorian Fruitgrowers' Cool Stores Association, stated that in the markets of England, fruit made prices according to its quality. The rough handling which the fruit received was the prime cause of depreciation. Fruit which left Australia well packed and graded was often rendered unsaleable because of the knocking about which it received. Softwood cases, as used for N.Z. fruit was better than the hardwood cases used in Victoria for the export trade; in addition, New Zealanders used an attractive label. The proportion of undersized and badly-packed

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

fruit from Australia was small; the great bulk was of good quality, well packed and graded. He had paid 10d. per lb. for American Apples which were of all sizes and tasteless—not worth 2d. per lb.

He had purchased Australian canned fruits in England and these were superior to anything else of the kind he had seen.

Regarding recent utterances in Parliament, he thought it was a big mistake for public men, unless fortified with facts, to trounce such a great industry. It seemed to be the delight of some people to say everything they could that was detrimental to Australia, instead of boosting it. He had returned from an extensive trip, satisfied that there was no better country than Australia. (Applause.)

Goodwill for a business is built up by good goods, service, and truthful advertising.

The Coming Season Reviewed.

Fruits Grown and Crop Prospects Throughout Australia and New Zealand.

(Continued from last issue.)

NEW SOUTH WALES.

Fruit Tree Plantings in Commercial Orchards.

Kentucky District, Great Northern Line, N.S.W.

THE Kentucky Returned Soldiers' Settlement comprises 79 holdings, area 7319 acres.

The total area under orchards is approximately 1,200 acres. Fifteen orchards are now entering their eighth year; twenty-seven their seventh, twenty-seven their sixth, and eleven their fourth year.

The plantings made originally by the Lands Department were as follows:—

Year.	Apples. (trees)	Pears. (trees)
1918	10,044	7,732
1919	18,477	11,594
1920	24,967	5,688
1922	8,593	4,146
Totals	62,081	29,160

In addition, during the last two seasons soldier settlers have planted out trees, approximately:—

7,000 Apples and 1,000 Cherries, made up of varieties as shown in departmental plantings.

Owing to losses, which are slightly over 3 per cent. from all causes since the commencement of the settlement, and to the fact that settlers have worked over some Prunes and some Apples, these returns are approximate.

The orchard book containing these particulars is being re-constructed at the present time, and when completed will give full particulars of all varieties planted both by the Crown and by soldier settlers.

There are two commercial orchards outside the settlement orchards owned by F. Burley and H. M. Croft. The plantings (trees) in these orchards are as follows:—

In bearing.	Apples.	Pears.	Cherries.
F. Burley . . .	400	—	600
H. Croft . . .	1,800	140	200
Non bearing (about 3 yrs. old).			
F. Burley . . .	500	—	500

Apples comprise chiefly Jonathan, Granny Smith and Democrat, with few Rome Beauty, Five Crown and

Fanny.

Cherries.—St. Margaret, Florence, Early Lyons, Bedford Prolific, Napoleon, with few Early Rivers, Early Glean, and B. Twyford.

Yields for 1926.

The fruit returns from the soldier settlement for season 1926 was as follows:—

	Apples.	
Gravenstein	1,000 bushels	
Jonathan	13,088 "	
Sturmer	2,164 "	
Granny Smith	7,586 "	
Democrat	1,187 "	
Total	25,025 "	

Pears, 1,834 bushels, the main crop being 1,023 bushels of Williams, and sixty 12 lb. boxes Cherries.

	Apples. (trees)	Pears. (trees)	Cherries. (trees)	Prunes. (trees)	Plums. (trees)
1918	10,044	7,732	—	948	684
1919	18,477	11,594	—	4,035	—
1920	24,967	5,688	3,272	—	—
1922	8,593	4,146	—	—	—
Totals	62,081	29,160	3,272	4,983	684

The approximate estimate given by Messrs. Burley and Croft was—3,000 bushels Apples, 100 bushels Pears, 2,800 12 lb. boxes Cherries.

Prospects.

The harvest this season will be only about 33½ per cent. of the estimate, owing to severe weather conditions, hot winds, and frosts, with a light infestation of thrips. The returns shown here should be reached this season with a slight advance in the Pears.

Owing to the trees just coming into the bearing age, we can look forward to large increases in the returns from year to year during the next four or five years, and given normal weather conditions.—Wm. Milligan, Manager Kentucky Settlement, 29/11/26.

Batlow.

Apples.—Jonathans, light to medium; Granny Smith, medium to good; Londons, very light; Tasma, very light; Delicious, light; Yates, light to medium.

Pears.—Williams, medium to good; Winter Cole, very light to medium; Packhams, medium to good; Josephine, light to medium, some good.

Cherries.—Light to medium.

The seasonal conditions have been abnormal—the spring setting in early, followed by a recurrence of winter weather—cold rain and frosts. Thrips were also very plentiful on the blossoms.

For the season just closing, the Batlow Packing House—which has recently opened a Sydney Distributing Depot (wholesale) handled 90,000 odd bushel cases of Apples and Pears. The district output has been 120,000 cases of Apples, Pears, Plums. It is estimated that at the best the coming season's crop will not exceed 50 per cent. of a normal output.—H. V. Smith, Mount View, Batlow, N.S.W.

Lavington, N.S.W.

Principal fruits grown here are:—**Peaches.**—Brigg's Red May, High's E. Canada, and Hale's Early. Crops very poor, perhaps lightest on record. (Good flowering.)

Apples.—Jonathan, Granny Smith, Dunn's Favorite, Rome Beauty. Crops lightest on record. (Record flowering.)

Prunes.—D'Agen, Angelina Burdett, and Sugar. Sugar a failure; others very good, equal to best in places.

Plums.—No very large plantings; Santa Rosa most popular. All Japanese varieties almost total failure; English varieties good crop.

Pears.—W.B.C, Packham's Triumph, Josephine, W. Nelis. W.B.C. and Packs. equal to best crops of previous seasons. Later varieties total failure.

Grapes (Wine and Table).—Walsham, Snow's Black Muscat, Lisbon, Red Prince, Gros Colman. Promise exceptionally good; so far free from various fungus diseases.—J. Buckhorn, Lavington, via Albury, N.S.W.

Gosford, N.S.W.

(1) This is a Citrus district—Navels, Valencia's, White Silettas and Jaffas.

(2) Crop prospects are extremely poor owing to continued dry weather.

(3) There has been a fair area of new planting this season, and more attention given to irrigation; also many growers have acquired power cultivators owing to the higher wages conditions.

Most of the Citrus crop has been marketed. Fruit, though generally small, has been clean, and returned good prices. This district is having the driest time for November for many years, and much of the new crop is falling.—W. E. Kirkness, Gosfield, N.S.W.

Kurrajong.

(1) The principal fruits grown here are Citrus: Navels, Joppas, Valencia's, S. R. Lemon.

(2) The crop prospects are poor, not as good as last year.

There is very little new planting.—Wm. S. Arnold, Soldier Settlements, Kurrajong.

SOUTH AUSTRALIA.

Renmark.

1. The principal fruits grown in the district are vine fruits, Oranges and Apricots, Pears and Peaches.

2. The crop prospects for Sultanas are exceptionally good. There are few shoots not carrying fruit, and sometimes two bunches can be seen on a good many.

Doradillos and Gordos are also showing heavy crops, and have set well.

Currants for some reason have set badly in patches, due, it is thought, to a frost belt occurring about October 18. No harm was apparent at the time, the flowering was normal, incising in various methods (by a single incision or the strip removed) failed to show any difference in setting.

There is no doubt that the crop on the whole may not be materially different from last year's total, viz., an average yield. Sultanas, Gordos and Doradillos, however, will be considerably heavier than last year. Apricots are better than last year, and showing quite a good crop. Pears are almost a complete failure this year. Peaches and Nectarines are good.

The all-absorbing topics of interest to growers of vine fruits are the re-enactment of the Dried Fruit Control Act, and the wine bounty. The latter has been renewed by the Federal Government, thus giving a much needed impetus to the wine and spirit business, and heartening those growers of Gordos and Doradillos, and possibly Currants.

The Dried Fruits Act, being a State Act, is still in doubt. It has successfully passed through the S.A. House of Assembly, and now awaits its passage through the Legislative Council. It is a great pity that this Act could not become a Federal Act

instead of State. The industry can be completely dislocated if the other States do not pass legislation of control as S.A. and Victoria have done.

W.A. will soon have 2,000 tons of Currants, which, if not carrying export obligations, will demoralise the Australian market.

It is to be greatly hoped that W.A. and N.S.W. will fall into line with S.A. and Victoria, for unless they do, there can never be the stability about the industry that is now warranted.

In view of the Currant situation, the distilleries here are making provision for the possibility of taking the bulk of the Currants in the fresh state, for if dried Currants are de-controlled by proclamation, the speculator will have a good time, or the grower will have to take what is offered him.

The State Bank of South Australia has opened a branch in Renmark, and is fulfilling a worthy object, that of giving greater help to the primary producer. The local manager (Mr. A. Chapman), has had many years' banking experience in Victoria and Tasmania, and is doing his best for local growers.—Oscar Weste, Renmark, 21/11/26.

Eden.

1. The principal fruits grown here are Grapes (Muscatel, Grenache, Doradillo, Pedro). Doradillo, Pedro and Muscatel are good, Grenache light.

Almonds are grown extensively: Brown Brandis, White Brandis, New Brandis, and Chellaston.

2. Crops are very light—half last year's crop, due to cold windy wet weather at the time of blooming.

Other fruits grown are Apricots and Peaches. Both crops are fair.

3. Very little planting is being done owing to land being required for building; high prices being offered by land agents induce owners to sell rather than risk the prospects of competition with importations of Mediterranean Almonds, produced by cheap labor.—C. H. Ragless, Eden.

Gumeracha.

In this district the chief varieties grown are Apples, Pears and Plums (the two latter being in relatively small proportion as compared with Apples.)

The Apple crop this season is likely to be the smallest on record; varying in the different orchards from a total failure to (in only a few instances), about a quarter of a normal crop. The cause of the failure is not certain, but adverse weather conditions at the blossoming period prob-

ably had a good deal to do with it. The protracted dry period—extending over six or seven months at the end of last season—is believed by some to have been contributory to the result.

A few orchards report good crops of both Pears and Plums, but the average of the district is about a medium crop.

In most instances the trees are looking healthy and clean; a few however, complain of an increase of fuscladium in Apple and Pear.

A greatly increased acreage of Tomatoes is being put in, with a view to augmenting the grower's income. The high price, and difficulty of obtaining good seed Potatoes is restricting to some extent the area under this crop.

Taken altogether, the outlook for the orchardists in this district is the worst for very many years.—J. B. Randell, Gumeracha.

Wirrabara.

—The prospects for season 1926-27 are:—

Apples.—Very light; last year, heavy.

Apricots.—Very light; last year, medium.

Peaches.—Moderate; last year, medium.

Plums.—Jap., moderate; last year, heavy. Others, light; last year heavy.

Pears.—Medium; last year, heavy.

Grapes.—Flowering well; last year, average. Currants, flowering well; last year, light. Sultanas, not grown extensively, generally a failure.

There is no increase of acreage, and no new plants of any kind.—P. J. Curnow, Wirrabara.

Nuriootpa.

1. The principal fruits grown are:—

Apples.—Mostly Cleopatra, also Dunn's Favorite, Jonathan, Rome Beauty, etc.

Pears.—Williams, B.C., for canning, Glou Morceau for export.

Apricots.—Moorpark.

Peaches.—Elberta, Salway, and various Clingstones for canning.

Prunes.—D'Agen, Robe de Sargent, Splendour, Sugar.

Plums.—Golden Drop, Jefferson, etc.

2. The fruit crop on the whole will be somewhat less than that of last year. The weather conditions were not favorable for a good setting of fruit, with the exception of Apricots. An unusually warm spell during early spring was followed by a continuance of cold stormy weather, with the results that many varieties which had been prematurely forced into

bloom, set badly. No appreciable damage has been done by thrips, although they appeared in the late bloom of Rome Beauty.

The **Apple** crop is light; **Apricots** good; **Pears**, Williams medium, late varieties light; **Peaches**, most kinds light, Elberta medium; **Plums**, light; **Prunes**, medium.—A. B. Robin, Nuri-oopla.

WESTERN AUSTRALIA.

Mt. Barker, W.A.

In spite of severe hailstorms and the British coal strike, growers in this district have had quite a successful season, chiefly owing to the remarkable buoyancy of the local market, which has risen steadily since April last, from 10/- per case average, to 25/- average in November. Growers have been able to recover somewhat from their heavy losses on the later boats—106,000 cases were shipped from the Port of Albany, of which 68,000 were shipped by the Mt. Barker Fruitgrowers' Co-operative Society on behalf of growers and buyers.

It is hoped that at least as much will be shipped this season, but present indications are medium crops. Rough weather at blossoming time has been the cause of much fruit not setting. **Pears** generally, are very light. **Winter Nelis** particularly, and among **Apples**, **Cleos**, are very light, also **Yates**, while **Jonathans**, **Dunn's**, **Romes** and **Granny Smiths** are medium to heavy.

Insect pests have not been much in evidence. **Thrips** put in an early appearance, but heavy rain apparently cleared them up, as there has been little sign of them since. **Woolly aphis** is very bad this year owing to the cold spells keeping the ladybirds in check, but the parasite, *aphelinus mali*, is now well acclimatised.

Powdery mildew is very much in evidence in most orchards—atomic sulphur being apparently the only spray to check it. It is hoped that experiments will be carried out with dust guns and powders for the checking of this pest.

Growers have had many important matters on their minds lately—chief of which have been the Export Control Board, State Fruit Advisory Board, and Central Markets Act.

Growers had the opportunity of hearing first-hand information from Mr. J. McN. Martin, who, together with Mr. F. E. S. Willmott, represented this State at the conference held in Melbourne, to discuss and amend the proposed Fruit Export Control Board. Mr. Martin detailed

all the discussions, and gave as his opinion, that growers should support the formation of such a Board as it might do a great deal of good, and could do little harm.

The State Advisory Board is still "in the air," as the Government finds difficulty in finding time to bring the measure forward.

The Central Markets Bill is now before the Upper House. Growers are in favor of the measure, but have had to fight strenuously to prevent the City Council from obtaining control of the markets. Growers have also endeavored to obtain two representatives on the proposed Trust, but up to the present have been unsuccessful.

The Annual Conference of the West Australian Fruitgrowers' Association is to be held at Mt. Barker on November 24 and 25.—G. R. P. Wall, Mt. Barker, 20/11/26.

Harvey, W.A.

The chief fruits grown here are citrus, **Navels**, **Valencias**, **Joppas**, also **Lemons** and small quantities of deciduous fruits.

Crop prospects are medium for **Citrus**; early **Peaches** are a failure; **Apricots**, heavy; also **Plums**, **Pears** and **Apples**.

This district is now mostly turned into dairying.—Geo. H. Atkins, Harvey.

Mundaring.

(1) The principal fruits grown are stone fruits, **Apples**, **Citrus**, **Pears**, and a fair sprinkling of **Grapes**.

Apples.—Varieties: **Dunn's Seedling**, **Yates**, **Cleopatra**, **Jonathan**, **Granny Smith**.

Pears.—**Bartlett**, **Keiffers**, **Winter Nelis**, **Vicar of Winkfield**.

Apricots.—**Newcastle Early**, **Moorkpark**, **Oullin's Early**.

Peaches.—**Bell's November**, **Elberta**, **Hale's Early**, **Early Canada**.

Plums.—All the leading varieties.

Oranges.—**Navel** and **Late Valencia**.

Lemons.—**Lisbon**.

(2) The **Crop prospects** on the whole are good. The stone fruits will be an increase on last year by about 25 per cent. **Plums** and **Nectarines** will be heavy. **Peaches** and **Apricots**, medium; early **Apricots** and **Peaches** are now on the market.

Apples.—**Apples** will be heavy in comparison with last season's crop. All varieties are doing well. The yield should show an increase of about 75 per cent. on the previous year. The majority of growers will have to thin out their crops.

Pears.—The **Pear** crop will not be up to expectations, and will be very light to medium; the estimate being about 50 per cent. less than last season.

Oranges.—There is promise of a fair crop of **Oranges**, although it does not appear to be as heavy as last year. If the fruit sets as well as indications show, the prospect is good.

(3) There is not a great deal of planting being done at present, except where growers find that one variety does not succeed it is replaced by another.

One grower at Sawyer's Valley is installing a cooling chamber for the purpose of storing his fruit to then await a favorable market. This, no doubt, is the best plan to adopt, and will in time be followed by other growers.

Kalgan River, W.A.

(1) **Apples** and **Pears** are the principal fruits grown in this district. **Dunns**, **Jonathan** and **Cleos**, are the favorite export **Apples**, with **Yates**, **Rokewood** and **Granny Smith** for the late local market.

Pears for export are **Vicars**, **Winter Nelis**, **Josephine** and **Beurre Bosc**, with **Bartletts** and **Keiffers** for the local trade.

(2) The crop this year is—**Jonathan** and **Cleos**, medium; **Dunns**, very patchy, late varieties heavy. **Pears** good. Last year's crop was heavy all round.

(3) The woolly aphis parasite, *aphelinus mali*, is firmly established in this district, and growers do not worry about the aphis now.—L. L. Hill, Kalgan River.

NEW ZEALAND.

Auckland.

1. The main fruits in the Auckland District are **Apples**, all the standard export varieties; **Pears**: **Williams**, **Keiffer**, **P. Barry** and other leading sorts; **Peaches**: **Carman**, **Paragon**, **Lippiat's Late**, **Golden Queen** and others; **Nectarines**: **Ansenne**, **Gold Mine** and others; **Plums**: All leading sorts. **Lemons**, **Oranges** (**Poorman** and **sweet**).

2. **Crop prospects** generally are equal to last season. The export of **Apples** will be increased; **Peaches** and **Plums** somewhat light; all citrus fruits good.

3. **Organisation**.—The Auckland Fruitgrowers' Council Ltd. is linked with the New Zealand Fruitgrowers' Federation. The Council comprises 11 District Associations. The policy of the Council is to assist in the

organisation of fresh associations in districts not yet organised, and to assist in strengthening the existing Associations. General satisfaction is felt at the attitude of the new Minister of Agriculture, the Hon. O. Hawken, towards the fruit industry.

The report of Colonel Gray on the overseas markets is greatly appreciated.—Geo. A. Green, Secretary, Auckland Provincial Fruitgrowers' Council Ltd.

Hawkes Bay.

The main fruits grown in Hawkes Bay are Apples, Pears, Peaches and Plums.

The main varieties are:—**Apples:** Gravenstein, Cox's, Jonathan, Munroe's, Delicious, Sturmer, Ballarat, Statesman and Dougherty. Granny Smiths are now being planted in fair quantity.

Pears.—Williams, Louis Bon Jersey, Capiamont, Conference, Packham's, B. Bosc, Josephine, P. Barry, W. Cole and W. Nelis.

Peaches.—Mayflower, High's Early Canada, Eulates, Triumph, Carman, Wiggins, Husteds, Peregrine, American Pound, Gold Dust, Mary Choice, Paragon, Late Crawford, and Salway.

Plums (Jap.).—Wright's Early, Akarana, Santa Rosa, Burbank, October Purple, and Purple King.

Plums (English).—Evan's Early, Diamond, Green Gage, Giant Prune, Monarch, Pond's Seedling, and Grand Duke.

Prospects.—The crops are not going to be as heavy as last year. Apples are somewhat patchy. Pears are now shedding very heavily, due, no doubt, to the bad weather at blooming time. Peaches, fair crop, in some parts thinned out by severe frost at end of September. On November 12 we had a severe hail storm, which, in parts of the district, did a great deal of damage, which will diminish the crop still further.

Our acreage is about 2,300, and our production last year was approximately half a million bushels. We will increase in the future, but will probably be down somewhat this year.

There are several matters of great interest just now; firstly, the installation of the central pumping station for spraying and piping of orchard. This has been installed in two or three orchards here, and those who are using it cannot speak too highly of it, and would not go back to the portable outfit.

Secondly: The use of the tractor in place of horses. There are a number of tractors now working in the orchards here, and those who have been using them would not care to go

back to the horses for traction purposes.

Thirdly: **Individual cool stores.** Quite a number of orchardists are talking about erecting their own cool stores. One is at present being built. It would not surprise me to see eight or ten small stores erected in the orchards within three years.

Fourthly: We are hoping that we will soon be able to bring in standardisation, so that it will be possible to keep the low grade fruit off the fresh fruit market.—Ralph Paynter, Havelock-road, Hastings.

Clyde (Central Otago).

The main crops for this district are stone fruits. The prospects for this season in the blossoming stage looked to be a record, but a lot has happened since then. In September, just as the Apricots had set, there was a severe snow storm, the worst ever

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

known in the district for that time of year. In some parts it cleaned the Apricots out, and gave them a good thinning out in others.

In October there was a severe frost and in the open country it played havoc with the whole of the stone fruit crop. At the foot of the hills in Roxburgh and Clyde, Cromwell, Gorge there are still good crops of Peaches, Nectarines and Plums.

The Apple crop throughout the district is only fair, the setting of the Delicious was very good, Jonathan fair, and Sturmer very poor. Taking the fruit crop throughout the district, it is very poor. It has been estimated that the loss to Central Otago is from £50,000 to £60,000.—Phil. Miller, Allston Orchard, Clyde, N.Z.

(For further report, see New Zealand Notes, p. 26.)

VICTORIA.

Wantirna.

Wantirna, being a district practically in the suburban area, the fruit-growing industry caters more or less for local markets, with the exception of Yates' Apples and Pears, the majority of which go to interstate markets.

Apples, Pears, Peaches, Plums and Cherries do exceptionally well in this locality. The varieties of Apples chiefly grown are Jonathan, Rome Beauty, Stewart's, Five Crown, Yates, Gravenstein; Pears—Williams, Packham's, Winter Nelis, Winter Cole, Josephine, Keiffer's, Howell's. Peaches—Brigg's, Hale's, Zerbe, Smith's, Late Crawford. Plums—Diamond, Angelina, Japanese.

The coming season is not very bright; in fact, one of the worst on record, caused through the ravages of the thrips. Some growers will not have above 20 cases, while others who are more fortunate in having a good many mixed varieties will have a fair sprinkling of Apples. The same applies to Pears; some varieties have set fairly well, especially Packham's, Keiffer's, Howell's, and a few Williams. It is very doubtful if the local cool store, which has a capacity of 40,000 cases, will operate this season. It was hoped that in the coming year the Wantirna Cool Stores would be running under electricity, but that has now been deferred for another twelve months.—Chas. Wallace, Wantirna.

Bairnsdale, Victoria.

The principal fruits grown around Bairnsdale are Apples, Pears, canning Peaches, Apricots and Plums. Leading varieties of Apples are Jonathan, Delicious, Yates, Rome Beauty, Granny Smith and Gravenstein. Bartlett, Winter Cole, Nelis, Josephine, and Packham's are leading kinds in Pears. Goodman's Choice and Pelora and Phillips in canning Peaches (the Pullar's coming too big and rough in this area), Blenheim (Shipley), Royal, Oullins, Moorpark and Hemskirke chief in Apricots; whilst Santa Rosa is the chief Jap. Plum for market, with Satsuma following very close. In English Plums the favorites are Grand Duke, President, Early Orleans, Diamond, Golden Drop and Jefferson.

Crop prospects are not very promising. Many varieties are very light owing to thrip ravages and exhaustion of trees carrying heavy crops last season, which was very dry. On

the whole about 60 per cent. crop is expected, excepting the Apricots, which are very heavy and had to be thinned.

Despite the disastrous result of the Apple export business last season, the local growers are planting chiefly in three or at most five recognised commercial Apples. There is much wisdom in this, and the benefit would be felt all round if the number of varieties for export were considerably reduced.—G. W. Peart, Bairnsdale, 29/11/26.

Tyabb.

The **Jonathan Apple** is the principal product of the orchards of this district; other varieties of Apples, such as **Rome Beauty** and **Five Crown**, are also grown in lesser quantities; also **Apricots**, **Pears** and **Plums**.

The indications are that about 20 per cent. of a normal crop will be harvested, whereas last year's crop was heavy.—H. J. Willoughby, Tyabb, 25/11/26.

Ringwood.

(1) **Principal Fruits** grown are:—Apples, Pears, Plums, Cherries, Quinces, Peaches, and a few Lemons.

Varities:—Apples—Jonathan, London, Rome Beauty, Yates, Stewarts, Granny Smith, Delicious, Statesman, other varieties in lesser degree. Pears—Williams, Keiffers, Packhams, Nelis, Howell, B. Bose, Winter Cole, Josephine, Broom Park, and others. **Other Fruits**—All leading Commercial varieties.

(2) **Crop Prospects.**—Cherries, light; Plums, fair; Pears, light; Apples, practically a total failure; Peaches, very poor. Compared with last season—about 10 to 15 per cent. of a total fruit crop.—J. G. Aird, Ringwood.

Mornington Peninsula.

Correct Pollination Reduces Thrip Damage.

Fortunately, Somerville and Tyabb have a fair amount of fruit available in comparison to other districts from whence reports are that the fruit crop is practically a failure.

The reasons probably are, we are blessed with a bounteous rainfall, distributed well over the whole year, never leaving long periods for droughts to lessen the vitality of the fruit-bearing trees. Thus, when an exceptionally dry spring comes at flowering time, like the last one, with its plague of thrips and other sucking insects, the trees are better able to put forth their vitality to such an extent as to overcome these difficulties.

We find, also, despite the above pests, etc., when the cold change in the weather came about, that any orchard well protected from the west and south-west, is bearing a good crop. This is particularly noticeable in the orchards of John Brunning and Sons, Somerville, where it is clear evidence, judging by the good crop of **Jonathans**, and other fruits showing where well protected.

Pollenisation.

Another matter which helped was pollenisation. There are five to eight grafts in a tree, mostly **Granny Smith**, **Rokewood**, **Sturmer Pippin**, **Yates**, **King David**, **Rymers**. Most Jonathan trees had one or more grafts of each variety in each tree, thus ensuring, in the event of failure of one or two varieties, the balance would act as pollenisers.

SWANN & Co.
Established 1822.
A century's experience in handling
FRUIT OF ALL DESCRIPTIONS
All Consignments for U.K. will have
Personal Supervision and Attention
Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.
Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

Granny Smith this year showed the best results, with Rokewood next. Next year the position may be reversed.

A word of caution may be given—Do not graft other varieties into a tree until it is at least 10 or 12 years old; the reason for this is that, if you graft a small limb in a young tree, that limb soon assumes large proportions in a few years, to the detriment of the balance of the tree. We have seen instances where the polleniser has taken up about a quarter of the tree. This is a distinct loss, and this method then defeats its purpose obviously.

A good crop of **Statesman** is showing where the crop was off last season. **Delicious**, where grown, are a failure. There are too many failures in this variety.

Winter Cole Pears are showing a good crop; these are pollenised by **Beurre de Capiamont** and **Compte de Flandres** grafts. **Beurre Capiamonts** are showing a good clean crop, free from Black Spot. **Broome Parks** are good also.

Manuring and Spraying.

Mr. T. W. Brunning, Somerville, gives the following useful hints:—

The whole of the orchard in bearing was given 7 lbs. bonedust per tree last June, whilst a portion of the **Jonathans** was given 20 lbs. per tree, but there was no difference in the setting of the fruit, though doubtless next season the benefit will be reaped.

We are beginning to realise that to attack many fungus diseases successfully, it must be done from internally, not externally by spraying, which, when continued unceasingly, tends to break down the vitality of the tree, except in the case of oils, which do good.

Systematic manuring is the method practised, and we find the trees are responding to the treatment, and the fruit is overcoming weakness, like Black Spot, etc. This was especially noticeable in a **Beurre de Capiamont** Pear tree, which is twice the size and twice as vigorous, as the rest, carrying every year heavy crops of large fruit, free from all blemish, due, no doubt, to waste matter thrown around it from an occupied hut near by.

Mr. Percy Floyd, Tyabb, has a very fine crop of **William's Favorite**, which should bring him handsome cheques later on. Some heavy crops of **Jonathans** are showing on a good portion of the orchard, which is particularly well pollenised and well cultivated.

TOOMUC VALLEY ORCHARD.

The well-known orchard property, Toomuc Valley, at Pakenham, Victoria, was offered for sale by auction during December, but was passed in at £23,000. The property consists of 1,004 acres, 209 of which are planted.

Kettering (Tasmania).

(1) **Principal fruits** grown in this district are **Apples** and **Pears**, and a few growers go in for **Strawberries** and **Raspberries**. The general varieties grown are S.T.P., N.Y.P., S.P. Jon., F.C., S.P.M., T.P. Pears: W.B.C., W.C., W.N., B.D.C., and B.B. form the main.

(2) **Pear crop** is very good, and greatly exceeds last year's crop. Apples are about a 50 per cent. crop. All orchards are exceptionally free from spot, compared with previous seasons. **Strawberries** and **Raspberries** are carrying a very good crop. **Strawberry** picking commenced two weeks ago; **Raspberries** not started yet.—M. T. Watson, Kettering.

Tasmanian Crops.—For notes on prospects, see p. 44.

Victoria

Cool Stores :: Meetings and Reports :: Notes

FRUITGROWERS' COOL STORES' ASSOCIATION OF VICTORIA.

The quarterly meeting of the Fruitgrowers' Cool Stores Association of Victoria, was held at 325 Collins Street, Melbourne, on November 18, 1926.

Present.—Messrs. J. Stevens (Blackburn), W. Mock and A. R. Fankhauser (Burwood East), H. L. Tomkins and R. Langley (Croydon), F. Thomas (Bunyip), R. M. Finlay (Diamond Creek), R. E. Petty (Doncaster Central), J. Robinson and A. E. Ireland (Doncaster East), J. Tully (Doncaster West), J. H. Lang and E. Pritchard (Harcourt), J. M. Watt and J. Carpenter (Hastings), C. H. Colman, J. Pepperel and D. Peck (Mount Waverley), J. W. Bailey (Narre Warren), T. W. White (Somerville), R. Read and A. Chivers (Templestowe), L. Cole and F. Stockton (Tyabb), C. Wallace and F. J. Byrne (Wantirna), J. W. Bailey and W. Lipscombe (private stores), and J. G. Aird (Ringwood), Secretary.

The President, Mr. J. Tully, occupied the chair.

Cambridge Scientist.—Mr. Lang reported that Dr. Kidd, of the Cambridge Low Temperature Research Station, would be visiting Australia next year. Resolved—That should it be convenient to Dr. Kidd's itinerary, an invitation be extended to him to be present at the next meeting.

The Secretary reported that statistics of fruit held in store at 1st of October and November, were complete, every affiliated store, and the Government store having sent in returns.

Effect of Thrip Damage.—At the instance of East Burwood, Tyabb, and Templestowe stores, a discussion on the advisability of approaching the State Government to suspend interest and sinking fund payments on account of the failure of the fruit crop ensued. It was decided—"That an appeal be made to the State Treasurer and the State Savings Bank to suspend the next 18 months' interest and sinking fund payments, as from December/January next, until the end of each stores' respective term."

"That the Secretary request Mr. A. E. Chandler, M.L.C., to arrange for a deputation to wait on the State Treasurer and State Savings Bank to urge this request."

"That an urgent request be made to the Council of Scientific and Indus-

trial Research to carry out an immediate investigation into the life history, habits, and parasites of the thrip, with a view of control."

Share Values.—The question of share values introduced by Wantirna, was freely discussed to mutual advantage.

Storage Problems.—It was resolved that a conference of cool store engineers and secretaries be arranged during January, to discuss storage problems.

Next Conference.—Invitations are requested for place of meeting of the next conference.

Cr. Jordan Welcomed.—Cr. J. Jordan, Mulgrave, was cordially welcomed; he addressed delegates on his impressions during his recent trip abroad, and was accorded a hearty vote of thanks.

T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

THE COST OF THE THIRP PLAGUE.

"It is estimated that the Victorian Apple crop this year will show a drop of nearly two million bushels on last year's figures, and the thrip will cost the Victorian producers £500,000," said the Victorian Superintendent of Horticulture (Mr. J. M. Ward), at a Better Farming Train demonstration, at Whittlesea.

VICTORIAN DRIED FRUITS ACT.

The Bill to continue the operations of the Dried Fruits Act for a further three years has been passed by the Legislative Council. This makes the date of expiry of the Board's operations, 1930, by which time it is hoped the industry will be stabilised.

VICTORIAN GOVERNMENT COOL STORES.

Accumulated Losses.

The Superintendent of Exports (Mr. R. Crowe), in a report presented to Parliament on November 16, indicated that the net loss on the operations of the Government cool stores at Victoria Dock for the year ended June 30, was £18,165, after providing for all expenses, including £20,170 for interest and depreciation, £3,566 for rent of land occupied and conveyor, and £1,671 for insurance, maintenance, etc., of railway sidings.

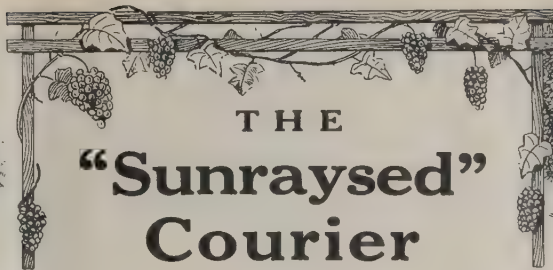
Mr. Crowe added, that more than half of the total of these amounts related to buildings and plant provided as an emergency measure during the war, and could not be viewed as expenditure on which the working of the stores could be expected to pay. After deducting the accumulated profits, £99,457, from the accumulated losses of £147,428, the net loss on the transactions for 12 years was £47,971. The past season was unfavorable for the export of butter and meat, and only a small quantity was treated. The total exports of lamb and mutton from the State amounted to less than 1,500,000 carcasses, whereas under normal conditions there should be about 2,000,000 carcasses available for export yearly. The competition of other freezing works, which now existed in Victoria in excess of requirements, acted detrimentally on the operations of the Government cool stores. All freezing works for the export trade were suffering losses as far as business was concerned.

Acting on a recommendation by the Public Accounts Committee, the Ministry some months ago appointed a Board of three business men to investigate the operation of the Government cool stores and make recommendations with a view to establishing them on a more profitable basis. The Board was expected to submit its report during November.

SOMERVILLE CO-OP. COOL STORE LTD.

The annual general meeting was held on October 20, when the report and balance sheet were adopted, the results being considered satisfactory. A progressive development during the year was the arrangement for installation of electrical plant in place of the present engine.

The balance sheet shows assets—building, plant and machinery, £8,162/8/3; stock on hand, £55/10/1. The authorised capital is £25,000, and sinking fund £3,080/3/1.



THE "Sunrayed" Courier

THE SULPHURING OF APRICOTS AND PEACHES.

By A. V. Lyon, M.Ag.Sc.,
Viticultural Research Station,
Merbein.

A REGULATION governing the amount of sulphur dioxide (SO₂) allowed in dried fruits comes into operation in the United Kingdom on January 5th, 1927.

The quantity of sulphur dioxide allowed in the various fruits is as follows:—

Apricots, Peaches, Apples and Pears, 14 grs. per lb.
Raisins and Sultanas, 5.25 grs. per lb.

On some occasions these amounts have been exceeded in Australia.

From 1st October, 1926, dried fruits showing excess of sulphur dioxide will not be allowed for export, so every care must be taken to ensure that the amounts allowable are not exceeded.

Unfortunately the percentage of sulphur taken up by the fruit varies with a number of factors, the chief of which are:—

1. The quantity of sulphur used per ton of fruit.
2. The temperature of the sulphur chamber.
3. The amount of moisture on the cut surfaces when sulphuring takes place.
4. The construction of the chamber in regard to "tightness" for prevention of escape of fumes.
5. The period of exposure to sulphur fumes.
6. The completeness of burning of the sulphur.
7. The capacity of the chamber in relation to the quantity of fruit sulphured.
8. The maturity and the variety of fruit.

Though these various factors render it practically impossible to forecast the quantity of sulphur dioxide that will be retained, it is possible, if proper precautions are taken, to keep within the desired limits. With the exception of temperature, which is mainly dependent on weather condi-

tions, all of these factors are controllable.

General Discussion.

Several mistaken ideas need correction. The term "bleaching" is in general incorrect. The sulphur prevents moulding, fermentation and oxidation during drying, and so prevents darkening by fixing the natural colours of the fruit. Bleaching of ripe fruit, if any, is of a temporary nature, and excess sulphur does not improve colour, providing sufficient has been used to give the effects named above. Firm fruit absorbs SO₂ less readily than soft fully-matured fruit.

The Sulphur Houses.

The most general form is the sulphur hood, a light frame covered with building or roofing fabric. Care should be taken to see that the hood is practically air-tight, and that sufficient earth is placed around the bottom to prevent the escape of sulphur fumes. Wetting of this earth is of advantage in this respect.

If special fixed chambers are erected, it is inadvisable that the walls be of heavy material, which does not heat up quickly.

Quantities of Sulphur.

Bulletin 388, by Christie and Barnard, University of California, contains the following table:—

Fruit.	Hours exposed.	Sulphur in lbs. per ton of green fruit.
Apricots	4	7
Peaches	5	7
Pears	36	12
Grapes	4	5
Figs	4	3

Commercial practice, at any rate in Australia, usually provides for greater amounts, and of at least 12 hours' duration for longer exposure (12 to 24 hours). It is probable that the above amounts will be ample if the chamber is tight, combustion complete, and exposure of at least 12 hours' duration.

R. S. Hiltner, Dried Fruit Association of California, shows that under ideal conditions complete combustion of 2 lbs. of sulphur per green ton, in an airtight chamber, is ample in the case of Peaches and Apricots.

Until further investigations have been made, the figures above may be taken as a guide. The quantities given are many times in excess of those actually absorbed by the fruit, and will probably provide sufficient margin of safety.

In general, a practical guide for both time and quantity is to see that the pits are nearly, but not quite, full of juice on removal from the chamber. A view-glass in the wall of the chamber is convenient for this purpose. A further safeguard is for the grower to use the minimum amount that will give the desired effect under his own particular conditions. Fruit for sulphuring should be fully matured, otherwise results will show considerable variation.

The Burning of the Sulphur.

Sulphuring with minimum amounts will only be successful if combustion is complete, and the cut surfaces moist. A weak brine (1 lb. of salt to 4 gallons of water) sprinkled on the fruit immediately before sulphuring is helpful. It is particularly necessary if a delay has occurred between pitting and sulphuring.

Ground sulphur is often used, though flowers of sulphur burn more readily. The addition of 5 per cent. of sodium or potassium nitrate (saltpetre) to the sulphur will ensure complete combustion, and has no deleterious effects. The sulphur will not burn readily unless it is kept dry. It is usually burned in a small pit in the ground, at one end of the chamber. It is advisable that additional air be admitted by a passage over the fire, and a draught set up by having a few small holes in the upper part of the other end of the chamber. When the fumes are freely coming out of these holes, the whole system can be closed up.

Conclusion.

Pending investigations, the above remarks are necessarily inconclusive. No difficulty in regard to export requirements need be anticipated if operators use a chamber practically airtight with the minimum amount of sulphur that will give the desired color. Quantities are given per ton of green fruit in preference to space,

as the amount of sulphur required for the completely filled chamber is more easily ascertained by noting the quantity of fruit.

NEW TREATMENT FOR ANTHRACNOSE.

Successful Experiments with Cond's Crystals.

The most serious disease with which the Grape growers of Western Australia have to contend is anthracnose, or Black Spot. During dry years the trouble from this source is small, but, for the past few years, it has largely spoiled some varieties of Grapes, notably Sultanas and Waltham Cross, in vineyards which have not been properly treated. In the Eastern States, where the disease is very bad in some seasons, growers spray or

swab the vines in winter with a mixture of sulphate of iron and sulphuric acid, a compound which is very difficult to handle, as it is very corrosive, and destroys any spraying machine which is not made of glass. Some years ago Mr. R. Howie, a prominent Swan grower, experimented with a strong bluestone, lime, and water mixture, which has since been adopted almost universally in the State, said the "West Australian," on November 16th. This spray is one of the many forms of Bordeaux mixture; and while it has proved effective in decreasing the amount of Anthracnose it had several disadvantages. It is not infallible, and it is difficult to handle, and it scorches the tender foliage. Because of this Mr. Howie started experimenting in 1917 with a mixture of Cond's crystals. He was forced to abandon his experiments

owing to the high price of the crystals during the war, but he has tested the treatment again this year. Alternate rows of Sultanas were sprayed with Cond's crystals and Bordeaux mixture, and the difference between the rows is astonishing. Those sprayed with crystals are strong and healthy plants, with no trace of black spot, while those sprayed with Bordeaux mixture show the burnt tips which are characteristic results of the strong Bordeaux spray, and are consequently not as well developed and show a certain amount of Anthracnose. Mr. Howie claims that the Cond's crystals spray is more effective than the Bordeaux mixture; it does not damage the growth by burning the tips, and should therefore allow the vine to bear an earlier crop. It is a clear fluid mixture, and as a result easier to handle; it can be used any time after mixing, and it is cheaper than other sprays. The mixture is easily made, as it consists simply of $\frac{1}{2}$ lb. permanganate of potash to 40 gallons of water.

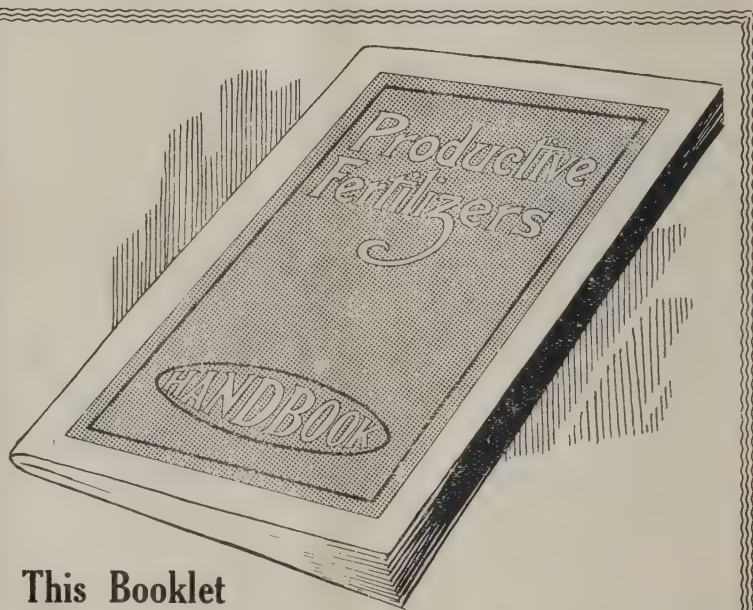
HOW LONG WILL VINES BEAR?

In response to an enquiry concerning the oldest vineyard in California, "The California Grape Grower" prints some interesting information concerning a number of old vineyards and the crops they are producing.

The oldest vine in California was planted at San Gabriel Mission by the Spaniards. It is estimated to be about 170 years old, and it is known to have been a large vine in 1800. It is said to be still producing "a large tonnage" of Grapes of the Mission variety. Of one vineyard planted 44 years ago there is said to be no apparent decrease in yield due to age. In 1919, 23 acres yielded over 13 tons of Grapes to the acre, and in 1920, 1921 and 1922, the average yield on 80 acres was slightly over 10 tons per acre.

A vineyard of Mission Grapes planted in 1854 (72 years ago) is still a splendid producer, and yielded over 13 tons gross to the acre in 1925. Many of the vines are 38 to 40 inches in circumference "and are in a splendid vigorous condition." Several other vineyards ranging from 60 to 75 years old are mentioned, and all are said to be producing paying crops.

Commenting on these reports, "The Grapegrower" reminds its readers that Pliny mentions a vine 600 years old, and states that some of the Italian vineyards are said to hold good for 300 years. Vines in Burgundy are known to have lived for more than 400 years. The famous Hampton Court vine is nearly 150 years old.



This Booklet

which was compiled primarily to advertise

SULPHATE OF AMMONIA

gives a wealth of information concerning fertilisers generally, and its circulation has helped considerably in the education of the orchardist to a better-paying fertiliser practice. Many copies have been circulated to students of agriculture and horticulture throughout the Commonwealth and New Zealand, and some significance must be attached to the greatly increased sales of Sulphate of Ammonia since its publication

"Productive Fertilisers" is yours for the asking

The Australian Sulphate of Ammonia Propaganda Committee
360 Collins Street, Melbourne

Junior, "A Model" with Packing Bins attached.
Four Bins, each about 3ft. 3in. x 3ft. 3in.
Two Bins, each about 2ft. x 3ft. 3in.



LIGHTNING FRUIT GRADER CO.

Cable and Telegraphic Address: "Lightning," Melbourne

"To Choose the Best is Wisdom"

THE . . .

"Lightning" Junior Fruit Grader

BUILT SPECIALLY FOR YOU

We are Specialists in Fruit Grading and concentrate solely on this work.

Our experience which is drawn from the whole of the Commonwealth and other parts of the world, is built into all vital parts of the "Lightning Fruit Graders."

Will grade all fruits — flat or round

Cash Price of Unit only, £23/10/-,
F.O.R., Melb. (without Packing Bins).

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

(2 Doors from Victoria Parade)

DRYING PRUNES IN OREGON, U.S.A.

Although the principles of dehydration are well known, the importance of standardisation of the dried products is urged, writes E. H. Wiegand, Oregon Agric. College Experiment Station, Bulletin 205. The author discusses the necessity for sanitation in handling the fruit, the desirable harvesting methods, preparing the fruit (grading, lye dipping trays), and the two general types of drying — natural draught and mechanical draught. The tunnel drier is accepted as the best natural draught process in use; illustrations are given of the influence of temperature, humidity and velocity of air circulation. Specifications which should be insisted upon when establishing a natural draught Oregon tunnel drier are stated. As regards the mechanical draught tunnel, work has been done at the Oregon Station with the object of simplifying the construction and economy of operation. A more uniform product has already been obtained.

A description is given of the sizing (nine point system) and the method of processing. The steam method has proved preferable to the water system. Reference is made to the

packing equipment and the market system adopted by the Oregon Growers' Co-operative Association.

GRAPE THINNING EXPERIMENTS

Two field meetings were held in Stanislaus County to note the effect of thinning table Grapes and Raisin Grapes, says the "California Cultivator" of October 30. Striking results were shown. The thinned table Grapes showed larger bunches with plumper berries and absence of shot berries. The unthinned rows showed considerable shot berries. The thinned rows also had a 1 per cent. higher sugar test than the unthinned rows. Thinning was done at three different times—at the time of pruning, after pruning, and at the time when the berries were the size of buckshot which was sometime early in June.

Those thinned last were the most effective. On the Thompson seedless, some vines were thinned and some were ringed or girdled. On those plots where the vines were ringed early in June, the size of the berries was almost doubled and the size of the bunches increased. These Grapes also showed a higher sugar test than the Grapes in the adjoining rows not girdled.

GREEK GOVERNMENT SEEKS TO IMPROVE BRITISH MARKET FOR CURRANTS.

According to the "Times Trade Supplement," London, steps of considerable importance have been taken by the Greek Government in regard to the British market for Currants. A central office has been established in London for the purpose of facilitating trade in Greek fruit and for propaganda purposes. A feature of the propaganda is the declaration that the Greek Government has imposed a "release" date on all Currants shipped from Greece, forbidding the shipment of any fruit before September 1st in any year. It is claimed that the object of this rule is "to protect the British housewife from speculation, and to ensure the perfect drying of the Grapes."



(GIBBS BRIGHT & CO.,—See Page vi.)

INCREASE YOUR M

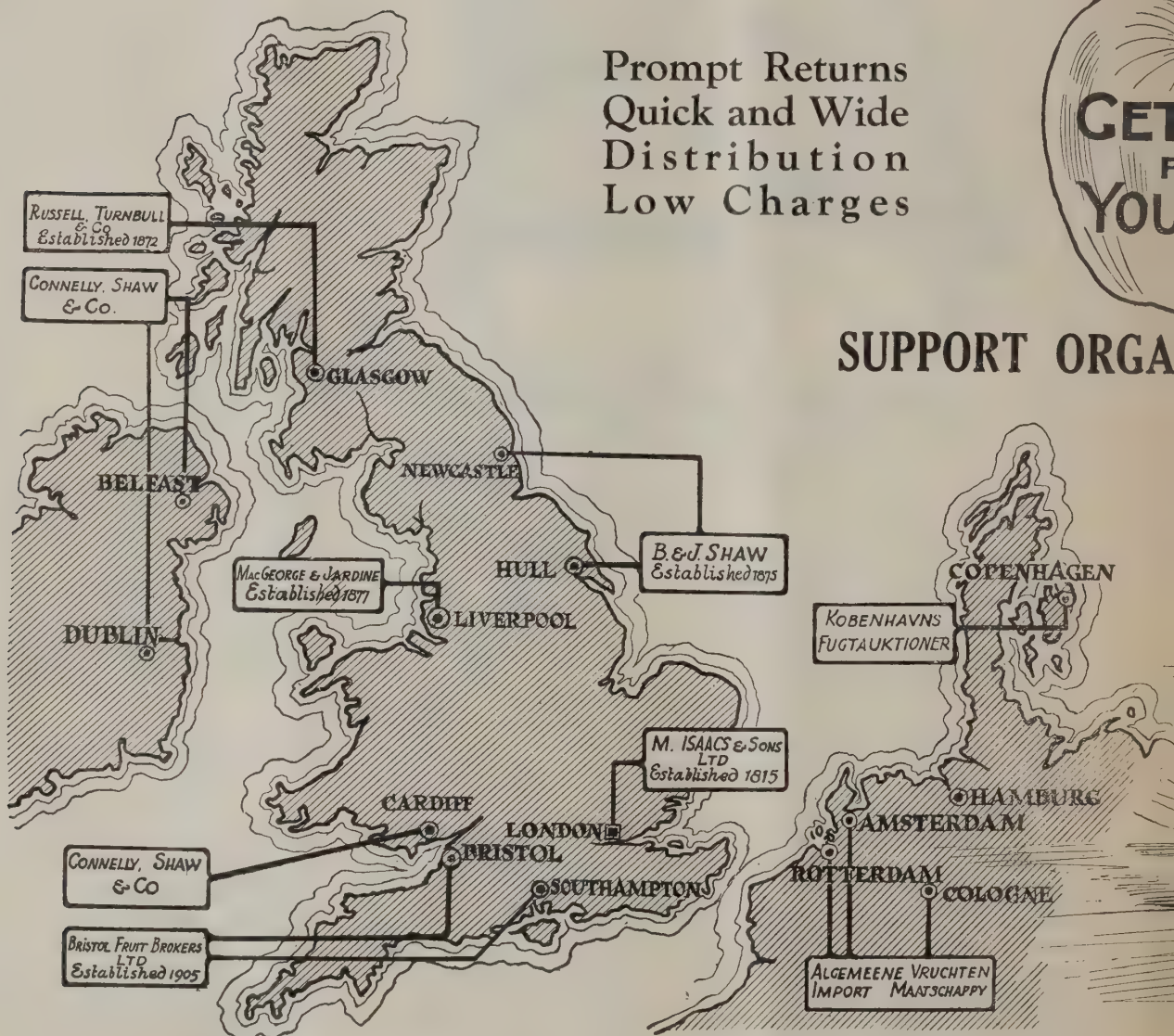
BY USING

COMPLETE AND DIRECT

Prompt Returns
Quick and Wide
Distribution
Low Charges

GET
F
YOU

SUPPORT ORGANIZATION



General Australasian Representative: H. G. COLOMBIE
 Temple Court, Collins Street - - - Melbourne
 Telegraphic Address: "Columbine," Melb. Phone: F 3284
 Over Twenty Years' Experience in Marketing of Fruit in U.K. and Continent

LARGIN OF PROFIT THIS CT ORGANIZATION

AUSTRALIAN GROWERS

Profit by the experience of other growers

CENTRALISE the sale of your fruit IN THE ONE RECOGNISED AUCTION SALE-ROOM AT EACH PORT, where Overseas Fruit is concentrated for sale, and where large numbers of buyers attend regularly.

THIS CONCENTRATION ENABLES BROKERS TO REGULATE SUPPLIES AND STABILISE MARKETS.

By this system BUYERS ARE MADE TO COMPETE for the fruit, TO THE BENEFIT

OF YOUR RESULTS, whilst by other methods, salesmen compete to obtain buyers.

CATALOGUES ARE PRINTED for buyers before sale, and reprinted after sale SHOWING ACTUAL PRICES PAID for your fruit. No manipulation of results possible.

Lots are sub-divided to enable all buyers to compete on equal footing.

Each parcel is valued by Auctioneer before sale, and lots not realising reserve prices are withdrawn.

ED MARKETING



For Shipping Space, Advances, etc.
apply to any of the above Shipping
Representatives

New Zealand.

Crop Prospects :: News and Notes

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable
"Peachbloom," Dunedin.

NEW ZEALAND.

Crop Prospects Good.

The Director of the Horticulture Division (Mr. J. A. Campbell), advises:—

The main fruits grown in New Zealand are:—**Apples:** Cox's Orange, Dunn's, Jonathan, Delicious, Statesman and Sturmer are the leading varieties. **Pears:** Beurre Bosc, Winter Cole, Williams' Bon Chretien, Winter Nelis and P. Barry. **Peaches:** Mayflower, Wiggins, Royal George, Kalamazoo, Golden Queen, Paragon and Salway. **Plums (English):** Evans' Early, Early Rivers, Angelina Burdett, Diamond and Grand Duke. **Plums (Japanese):** Wright's Early, Burbank and October Purple. **Apricots:** Newcastle and Moorpark. **Cherries:** Early Purple Guigne, Early Rivers, Black Tartarian, Bigarreau Napoleon, Bedford Prolific, Florence and St. Margaret.

The crop prospects generally are good, with the exception of Apricots, which suffered considerably in southern districts from a late frost, such as had never before been experienced there. Compared with last season the Apple crop does not promise to be quite so heavy, although the prospect in each district is decidedly good. Peaches generally promise a medium crop; Plums, a good average; Cherries, from average to heavy; Pears, a good average.

Our latest commercial acreage and production figures are as follows:—

	Acreage.	Bushels.
Apples	13,771	1,563,256
Pears	1,114	215,831
Peaches and Nectarines	1,110	141,167
Apricots	597	72,151
Plums	463	67,252
Cherries	154	9,270
Orchards not in bearing	2,651	

As the statistics taken exclude orchards in boroughs, the above figures should be increased by 25 per cent.

N.Z. "TOPPING" REGULATIONS.

When the berry crops were being harvested in the Auckland district early in December, Government inspectors reported that after surprise visits to the wholesale markets, they were satisfied that the regulations regarding "topping" were being scrupulously observed.

COMMERCIAL FRUITGROWING IN CANTERBURY, N.Z.

The commercial orchards in and around the districts of Papanui, Styx, Belfast, and Ouruhia, cover an area of approximately two miles by seven. The size of the individual orchards vary from one acre up to 42. The owners of the smaller areas are also engaged in other occupations, such as the growing of Rhubarb, Cabbages, Broccoli, Cauliflowers, and various other lines, which are profitable in the district. In the Papanui district the trees are planted much closer than is done in any other fruitgrowing centre. The land is very rich, and it is claimed that better returns can be obtained from close planting than if the standard distance of 18 feet is maintained.

Cultivation is carried out in many of the orchards, but in others grass is allowed to grow between the trees, with only a small piece around the tree kept cultivated. The grass is cut several times during the season, and used as a mulch on the cultivated portion. Good results are obtained with both systems.

Fruitgrowing in these districts is confined in the main to Apples and Pears, a few orchards having English Plums and also Cherries. However, stone fruit is not largely grown in these districts owing to the danger from late frosts.—"N.Z. Fruitgrower and Apiarist."

REJUVENATING APPLE TREES.

The remarkable manner in which some 40-year-old Apple trees have been induced to once again yield first-class crops was demonstrated at Mr. W. M. Hall's orchard (Poverty Bay, N.Z.) recently, when growers were shown the trees which have been bearing for forty years and which are still going strong. Through cutting them well back for the past few years, Mr. Hall has been able to increase the quantity of fruit gathered from the trees.—"N.Z. Fruitgrowers and Apiarist."

CLIMAX VENTILATED FRUIT CASES.

In an official report, the Victorian Agent-General, London, re shipment of Ohanez Grapes, 1926, in patent "Climax" cases, stated, "The cardboard buffers round the cases were good, as they prevented the cases being packed too tightly against each other, thus stopping the circulation of the air, which I think has been partly the cause of some of the past shipments of Grapes arriving in bad condition."

SHIP TO AUCKLAND, N.Z. Consign to the Up-to-date and Established Firm of **TURNERS & GROWERS** — LTD. —

City Markets, Auckland
New Zealand.

Salesrooms comprise—
55,000 ft. of FLOOR SPACE,
including
FRUIT COOL STORAGE ON
PREMISES.

Staff of nearly 100 Employees
Competent Salesmen only
employed.

HIGHEST PRICES
PROMPT RETURNS.

CABLE ADDRESS: "Cantab"
P.O. Box 439.

BANKERS: Bank of New
South Wales, AUCKLAND.

The Apple Industry.

Time to Harvest : Marketing : An Overseas Visitor.

THE BEST TIME FOR HARVESTING DELICIOUS AND JONATHAN APPLES.

Observations and Experiments in U.S.A.

AN INTERESTING BULLETIN is to hand from the State College of Washington Agricultural Experiment Station, U.S.A. It describes experiments by S. R. Niller and F. L. Overley, which aimed at fixing standards which would help to decide when Apples should be harvested in order to have the best market quality after a period of cool storage of 20 weeks.

Washington is the extreme north-westerly State of U.S.A. The climate approximates to that of Southern Victoria and Tasmania. Though it is situated in a higher latitude, it has a mild climate, due to the influence of the winds off the Great Japanese Current—the "Gulf Stream" of the Pacific. Washington produces 23 million bushels of Apples, about 25 per cent. of the total production of U.S.A. Its produce has to be marketed at great distances. It is about 1,000 miles from San Francisco, and 2,500 from New York. To reach London, its Apples must either pass round the continent, through the Panama Canal, or travel nearly 3,000 miles overland to be shipped at New York. Its problems are thus somewhat similar to our own, and the conclusions of their scientists should be of value to us.

The joy of living is to be interested in one's job, and to attempt to do it well. The man who has no interest in the work he does, no matter how much his income or how high his title, is but a galley slave.

No simple test of maturity has yet been formulated. The color of the apple, the color of the seed, the fragrance, the hardness are not sufficient. Some of the changes are so slow that the orchardist cannot detect them. Some growers, by long experience become skilled in selecting the time of average maturity, but they are unable to express their ideas in words for the guidance of others. We all know that there is a stage of maturity that enables the Apple to pass safely through a long period of cool storage, but it is difficult to decide it with certainty.

These experiments are a genuine

attempt to solve the problem, or at least to gain further knowledge of what constitutes maturity—or rather that stage of maturity which is the best for marketing purposes.

The Tests.

The Apples were obtained from a commercial orchard. They were harvested from three to four weeks before and after the date on which the growers harvested the bulk of their crops. Enough trees were reserved so that each of the weekly harvestings was from trees that had not been previously harvested.

Delicious and Jonathan Apples were used. One hundred Apples were tagged and measured each week to find the increase in size. Immediately after picking they were tested for hardness, and chemical tests were carried out to determine the sugar, starch, and acid contents of the Apples.

Similar physical and chemical tests were made at the end of 20 weeks' cool storage.

The Best Period.

These tables show that there was a steady decrease in the amount of starch in the Delicious, and of acid in the Jonathan, while both varieties showed a steady increase in sugar content, in size, color and hardness up to the date of the harvesting, which turned out the best. This was found to be a fortnight later than was the usual custom among the growers.

The best color and flavor were found to agree with the lowest starch content in the Delicious, and with a low acid content in the Jonathan, while in both cases the Apples at this stage approached their maximum hardness.

Now the determination of acid and starch can be made simple enough to allow their use in field tests, and there may here be a method of determining maturity with fair accuracy.

It was notable that Apples ripened in cool storage as they did on the trees, and the final chemical constituents of the immature Apple approximated to that of the riper ones—but of course there was no increase in color or size, and there was a definite loss of fragrance.

Losses from Windfalls.

Another matter studied was the loss from windfalls. In the case of Delicious the increased value of the fruit left on the trees for an-

other fortnight was offset by the losses due to dropping—but with the Jonathan this was not so. Here there was a profit by delay. Growers, however, have to risk losses from storms, or almost total loss from hail, and climatic conditions have to be taken into consideration. It was thought that a study of the causes of the fall of Apples might effect a reduction of this loss, and we await further information under this heading with interest.—F. Thomas, Bunyip.

VISITOR FROM ENGLAND.

Mr. J. F. Kruger, of Hull.

Mr. J. F. Kruger, a Director of Messrs. White and Sons, Hull, is now on a visit to Australia and New Zealand. On his way, Mr. Kruger spent some time in South Africa, where he noted the development of the Citrus industry. He states, however, that the production of Apples has not yet assumed considerable importance.

For several years past Mr. Kruger has paid regular annual visits to Australia, New Zealand, and South Africa, and has done a great deal to develop the fruit trade between these countries and the United Kingdom. In the meantime, the activities of his firm have spread, and now have services in London, Liverpool, Manchester, Glasgow, Antwerp, and other Continental ports. Mr. Kruger speaks well of the quality of Australian fruit, Apples, Pears, Oranges, etc., but suggests that growers, in their own interests pay particular attention to the grading and packing.

Last season was unfortunate for growers and traders alike. Owing to a frost in Spain there was practically a failure of the Orange crop; Spanish Oranges usually arrive on the British market from November to June. As a result of the frost, such Oranges as came were undersized and dry. Then came the arsenic scare. "This was nothing more than a scare," states Mr. Kruger, with emphasis. "Nevertheless, it had a very real effect on the general public, and housewives simply would not buy Apples. On top of this came the strikes, coupled with the fact that the 1926 shipments of Australian Apples were not up to the quality of those supplied in previous seasons."

Continuing, Mr. Kruger stated that the trade was brightening up again, and they were looking forward to better conditions. Unfortunately, the crop in the eastern States of Australia was very light, although in

Western Australia the crop was heavy and of good quality; it was anticipated that 400,000 cases would be exported from W.A. Of the Tasmanian crop, it was possible that a million cases might be exported to the U.K., leaving the balance, which was roundly estimated at 2,000,000, for the Australian market.

Mr. Kruger insists that growers simply must pay better attention to the sizing of their Apples. Last season cases marked "2½ inches" contained Apples under 2 inches, while others marked "2¾ inches" contained large, puffy fruit up to 3½ inch size.

Mr. Kruger expressed the opinion that every effort should be made to develop the trade in the export of Oranges. Australian Oranges had no superior. The fruit arrived just when most needed, viz., the English summer. Every effort should be made to overcome such transport troubles as existed, as the fruit was desired in Great Britain. "I am fully convinced," continued Mr. Kruger, "that there is a big market for Australian Grapefruits. You should grow more of them for sending overseas. A few years ago Grapefruit was only known on American liners; now there is a steady demand for them amongst the general public. At the time the Australian Grapefruit would arrive, there would be a splendid market."

NORTH-WESTERN BOXED APPLES.

2,268,000 bushels of Apples handled by our Fruit Exchange.

We have received from the North-Western Fruit Exchange, Wenatchee, Washington, U.S.A., a copy of their sales catalogue, entitled, "North-western Boxed Apples." This is a useful booklet outlining the Apple grading rules, labels, wraps, marking of boxes, freight rates, etc., for "Skookum" brand Apples, the product of the Skookum Packers' Association, which operates in the Wenatchee-Okanogan district of North Central Washington.

The North-western Fruit Exchange has operated continuously since 1910 in the marketing of boxed Apples. It provides sales service for organised units of growers and individual shippers in the Wenatchee-Okanogan district, and lays claim to marketing each season the largest block of quality boxed Apples handled by any one organisation. Prior to, during, and after packing, "Skookum" Apples are rigidly inspected and certified by competent inspectors employed jointly by the United States Department of Agriculture and the Washington Department of Agriculture. In addition, the Skookum Packers'

Association, affiliated with the Exchange, maintains a field inspection service to secure that selection of high quality, careful grading and heavy pack necessary to conform to "Skookum" standards. The following are the principal varieties packed in the Extra Fancy and Fancy grades:—Arkansas Black, Delicious, Grimes Golden, Jonathan, Rome Beauty, Spitzenberg, Stayman, White Winter Pearmain, Winesap, Winter Banana, Newtown Pippin, King David.

The North-western Fruit Exchange is affiliated with American Fruit-growers Inc. Writing on November 12, the sales manager states that "the tonnage of the Exchange this season will exceed three thousand carloads of 756 bushel boxes each, and because of the nation's abnormal Apple crop, prices generally have been none too satisfactory. About two-thirds of the crop has been shipped and sold, and most of those remaining consist of our Winesap variety, which are consumed after the first of the year."

AMERICAN APPLE COMPETITION.

A correspondent, writing from Cardiff, U.K., on November 6, said: "U.S.A. is dumping a lot of excellent dessert Apples at 4d. lb. retail in Cardiff. They are lovely eaters, quite as good as Australian, and 3d. to 4d. a lb. cheaper. What is Australia going to do about it? Our people cannot afford to pay 6d. and 8d. a lb. for Apples when others as good can be got for 4d."

THRIPS.

Several instances have been given where good crops have been obtained despite the Thrip scourge. In one instance a grower sprayed his trees with sheep dip. Another dusted the trees with arsenate of lead, plus another chemical preparation. Another instance was quoted where the grower left his orchard uncultivated; the Thrips remained in the Cape-weed and thus did not attack the fruit blossoms.

These isolated instances prove nothing. They only suggest the need for patient scientific research into the Thrip pest, and the means for its control.

CREDIT THE APPLE.

A new tailor in town used as a trade-mark the picture of a large red Apple. Curiosity got the better of the village grocer, and he asked the tailor why. "Well," said the tailor, "I'd like to know where the clothing business would be to-day if it hadn't been for an Apple."

MANCHESTER AS A FRUIT CENTRE.

Marvellous Work in Supplying the Half of England.

TO SUPPLY practically the whole of the north of England with fruit and vegetables is a colossal task. Yet it is one that is accomplished daily by Manchester's Covent Garden, the Smithfield Market. At an hour when Manchester is blissfully unconscious that there is such a thing as work, Smithfield is a seething turmoil of activity.

England sends her Apples, Pears, Plums and green stuff to this great market, one of the largest in the world. And because the market is so vast, the demand so huge, England's supply takes a minor place beside the enormous quantity of foreign produce. Rapid transport and scientific storing have made it possible for the industrial north to taste most of the fruits of the earth whenever it is so inclined, and the wonderful things that cannot grow in this changeable climate of ours can be obtained as easily and almost as cheaply as any home-grown fruit. Every day and every night vessels are coming up the Ship Canal, trains are rushing across from Liverpool and Hull, and lorries are hurrying over the Pennines or through quiet Cheshire lanes, all bearing fruit to hungry Manchester.

Six acres of covered area are needed to deal with this unceasing supply. Here stand the agents and the salesmen, at their bidding the fruit goes forth again to the millions who are by then probably considering drowsily the prospect of getting up.

Smithfield is well-equipped with cold storage apartments. There, all kinds of commodities can be kept fresh and good. Soft fruit can be saved over the week-end, and Apples will remain good for months. Food is closely examined in Smithfield, and nothing that is not absolutely fit for consumption is allowed to go out. The inspection is rigorous, and hundreds of tons of fruit are thrown away every year because it does not reach the high standard required.

Within a radius of 50 miles of Manchester, there are upwards of 10 million inhabitants. They are all supplied with their fruit from Manchester. It seems, therefore, that Smithfield is well worth a visit—but go early.—J.L.H., in "Manchester News," 2/10/26.

Ermington, N.S.W., 11/11/26.

Enclosed is renewal of subscription. I wish you all success with your valued journal.—Albert Smith.

New South Wales.

Organisation : Codlin Moth Control : The M.I.A.

N.S.W. FRUITGROWERS' FEDERATION.

To be Financed From Orchard Tax.

Taxing System Unpopular.

THE N.S.W. Minister for Agriculture (Mr. Dunn), stated at the recent conference of producers and consumers, at Bathurst, that he had decided to finance (under the Orchard Registration Act), the N.S.W. Fruitgrowers' Federation from the fees thus raised, and had authorised a first payment of £500. Under this arrangement every grower will automatically become a member of the Federation.

System Unsatisfactory.

The whole question of the constitution of the N.S.W. Fruitgrowers' Federation is now under review. For some years past the old Fruitgrowers' Association advocated an Orchard Tax on a per acre basis, the revenue from which should become the revenue of the Association, thereby relieving the few voluntary subscribers from paying for the organising and protective work being done on behalf of the whole industry and making this a charge against all growers.

After some considerable effort, a measure was placed before Parliament and a registration fee was imposed under the Plant Diseases Act.

Unfortunately, as so often happens when dealing with Governments, this matter did not develop in quite the way the growers wanted, and the fees have become payable to the Treasury to be allocated on the recommendation of the Minister for Agriculture.

The Fruitgrowers' Federation has been given a grant of £500 from the fund, but the position is deemed to be extremely unsatisfactory in that it has become impossible to collect subscriptions as in the past, in fact, it is not intended to try, as the Federation has adopted as a matter of policy a view that the Registration Fee is in effect the growers' subscriptions towards this organisation.

Officers of the Fruitgrowers' Federation are now at work preparing a constitution which it is hoped will result in the Minister financing the Federation in full from these fees.

If the Minister approves, and is also prepared to recognise the newly

constituted Federation to the same extent as he does the State Fruit Advisory Board, then the latter Board will cease to exist.

CURLWAA IRRIGATION AREA.

The Minister for Agriculture in N.S.W. (chairman of the Water Conservation and Irrigation Commission), referring to a report received by him as to the Curlwaa Irrigation Area, states that the orchard blocks on this area give fine promise of a good season.

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,

11 Neal St.,

COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,

9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.

Prompt Returns & Settlements

Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:

LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.

431 and 432

Pears and Apples are showing fair crops, and Peaches and Apricots show indications of good bearing.

Citrus trees appear at this early stage to be medium, notwithstanding there was a very heavy blossoming, and it would seem that crops have not set proportionately.

The vines are looking well, especially Sultanias, and give promise of a large yield.

CODLIN MOTH CONTROL.

N.S.W. Spraying and Bandaging Regulations.

In order to combat the Codlin Moth, regulations have been issued by the Department of Agriculture in N.S.W.

All Apple, Pear and Quince trees must be sprayed three times a year with arsenate of lead, in the proportion of not less than 18 oz. of dry powder, or 2 lb. of paste to 50 gall. of water; the first spraying to be made when the first signs of the closing of any of the calyces are visible, and to be completed within five days, the second during the week, beginning a fortnight after the completion of the first, and the third during the ninth or tenth week after the fall of the petals.

All trees must be kept free from loose bark and broken limbs, and all crevices and cavities free from the larvae of the moth, and all litter arising from these precautions be burnt.

All fallen fruit in infected orchards must be removed at intervals not exceeding three days, and all infected fruit destroyed at intervals of not more than three days by boiling for ten minutes, or by burning.

November 1st to July 1st, all trees must be girdled with a bandage of twill sacking (wheat sacking) of a weight of not less than 15 oz. a yard of 26½ in. width, each bandage to be not less than 8 inch in width, folded over with the fold facing downwards, and clear of the ground at its lower edge. Where more than one limb of a tree arises from the ground or a limb arises from a main trunk less than five inches from the ground, each such limb must be bandaged separately.

All larvae of Codlin Moth within or under the bandages must be destroyed at intervals not exceeding seven days during the period from November 1st to 31st March, and all larvae and pupae within or under the bandages on July 1st must similarly be destroyed.

Is Bandaging Desirable?

Growers are taking exception to the regulations re bandaging, believing that therein lies a danger of providing a breeding place for the pest.

N.S.W. PRUNE GROWERS.

THE annual conference of the N.S.W. Prunegrowers' Association, was held at Cootamundra on December 9. Mr. J. M. Dixon presiding. Fears were expressed that if the claims of the A.W.U. regarding orchard workers were granted, many orchards would go back to pasture.

It was decided to endeavor to register a simple brand under which all members' Prunes could be marketed. Prospects indicated that the crop would not be quite so heavy this year as last, but higher prices were anticipated.

It was agreed that the Executive's decision to five prices on four grades only had proved satisfactory, and no alteration was made. The fixing of prices was left to the incoming Executive. The following officers were elected:—Messrs. J. M. Dixon, J. Thompson, J. L. Norrie, E. O. Catts and L. R. Brown.

THE M.I.A.

Big Government Losses.

The report of N.S.W. State Enterprises, presented to Parliament early in December, showed that the year's operations on the Murrumbidgee irrigation areas had resulted in a loss of £353,093, while from July 1, 1915, to June 30, 1926, the loss on the areas in the State had totalled £3,040,713.

It was stated that £11,931 had been spent on the Griffith canning factory, which was then abandoned and was steadily depreciating.

In the trading utilities, the total loss was £47,219, against a profit of £2,000 for the previous year. The loss on the canning factory at Leeton was £48,023.

At June 30, 1926, debts owing to the Water Conservation and Irrigation Commission totalled nearly two millions and a-half. The general loan account had been drawn upon to the extent of £1,906,882 for advances to settlers, this showing a reduction of £234,763 on the amount last year, and was largely due to the remission of soldier settlers' debts.

N.S.W. FREIGHTS INCREASED.

The N.S.W. Railway Commissioners have made a general increase in freight rates to the extent of 10 per cent. on all goods carried in the State, as from November 24, 1926.

GRAPE CROP PROSPECTS.

It is reported that the Grapes have set heavily along the Murray Valley, the vines being healthy, and showing no trace of disease. Many growers are giving extra dressings of fertiliser to enable the vines to satisfactorily mature the heavy crops.

It is estimated that the 1927 vintage will be at least 50 per cent higher than last season's, and will probably be the greatest on record.

The Canned Fruit Industry.

Problems of Growing and Preserving :: Prospects

PRESERVATION OF FRESH FRUITS AND VEGETABLES.

In an article in the "Refrigerating World," Professor E. L. Overholser, indicates the difficulties to overcome for the preservation of fruits and vegetables during a long period, and describes the experiments he has made in methods of refrigeration to define the technical methods to be followed. His conclusions are as follows:—

1. Strawberries, red Raspberries, Loganberries, Blackberries, Cherries, Figs, Apricots, Peaches, Currants and Gooseberries, frozen at 10 to 12 degrees F., in water or sugar solutions, or crushed with or without sugar being added, in closed containers, were kept a year without deterioration of color or flavor.

2. Freezing in water of Figs, Cherries, and Asparagus appeared to provide a means of retaining the surplus of these products during the peak of the season for subsequent use by canners, and thus prolonging the canning season of any one product.

3. Freezing with dry sugar provided a means of retaining quickly perishable fruits for pies, pastries, ices, ice creams, and other soda fountain uses, jams and preserves.

4. Fruits frozen in 30 to 40 per cent. sugar solutions when removed and utilised in a partially frozen condition were as excellent to eat as fresh dessert fruit and the texture was pleasing.

The sooner they were eaten after removal from the freezing temperature the better they tasted. It seemed possible that large hotels, restaurants, and the soda fountain trade might profitably utilise such fruits, because of their superior fresh flavor, serving them as fresh fruits or in other ways.

5. All frozen fruits, however, tended to soften and break down after removal from storage. While the quality is essentially that of fresh fruits, spoilage upon thawing results more quickly than with either fresh or canned products. It would be necessary to educate the public to handle frozen fruits carefully, and to keep the material submerged until it is used or cooked.

6. It is possible that canners might become interested in preparing large cans for large consumers or in smaller cans for a special retail trade. Such

material would be ordered, delivered and handled by the retail trade as is now done with ice cream and served in the frozen condition.

7. With vegetables, hulled fresh Peas and Asparagus have been frozen in water and subsequently served cooked with the flavor and characteristics of the fresh material. The texture changes effected by the freezing were comparable to those resulting from the cooking.

It is stated that a number of inquiries are being made as to the commercial practicability of this process.

CANNED FRUITS CONTROL.

The vote of fruit-canners throughout the Commonwealth has given a majority in favor of the establishment of a Canned Fruits Export Control Board, announced the Minister for Markets and Migration (Mr. Paterson), early in December.

The Board will consist of three members. Mr. A. W. Fairley has been elected to represent the co-operative and State-controlled canneries, and Mr. A. W. Palfreyman, to represent the privately-owned and proprietary canneries. The third member will be appointed to represent the Commonwealth Government. The Board was expected to hold its first meeting during December.

Numerous enquiries have been received from Great Britain and the Continent regarding the coming season's pack.

WOMEN CANNERS IN SOUTH AFRICA.

South African women have a singular reputation for their success in such home industries as making konfyt, jam and jellies, and canning and bottling fruits. The excellence of their products, however, has not, it is said, been widely enough recognised, and steps are now being taken to organise the output of many homes into one great industry for export. The organisation will be known as the "South African Women's Konfyt and Canning Association." It will have a central agency at Pretoria, and storerooms in the various towns and villages where the canned and bottled produce will be collected.—"Imperial Food Journal."



The "Eclair" Spraying Fruit Trees.

FOR

SPRAYING, LIMEWASHING AND DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL.
Before Placing Your Order ASK A FRIEND
WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

— TO TELL YOU HIS OPINION OF IT — ACTUAL USE IS THE BEST TEST —

The types made include the following:—

HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS

BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED SPRAYERS
CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS

POWDER BELLOWES
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS

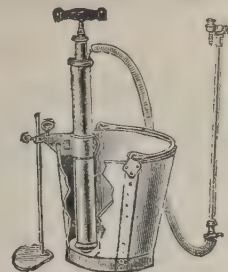
LIQUID CAPACITIES 1½ pints to 88 gallons.

PRICES FROM 4/- each.

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON E.C.2



PRECAUTIONS AGAINST BROWN ROT.

Peach growers in the Santa Clara Valley (California) sometimes suffer serious loss from brown rot. Leroy Anderson, writing in the "California Cultivator," October 16, gives his method of reducing the damage:—

My spraying schedule has provided for one spray per year applied as the buds are opening, chiefly to prevent leaf curl, after using lime sulphur for several years in succession, the indications were that an accumulative effect of the sulphur had resulted in considerable twig burning, for this reason I use lime-sulphur and Bordeaux in alternate years. In this practice the Peach moth is under good control without using arsenic in the Bordeaux since that worm is readily killed by lime-sulphur. Commercial lime sulphur is used 1 to 15, and Bordeaux with the formula 5-5-50. Possibly a spraying with Bordeaux as soon as the leaves fall would assist in brown rot control, and I am planning to try it this season, together with a little oil to kill a few brown Apricot scale.

I am not content with spraying alone. Every season as soon as the crop is off we pick up every fruit that is left on the ground as not fit to dry. Some are half and some all rotten, and the job is not a clean one by any means. If time is plenty, we pick up the "rough stuff" once about the middle of the picking season and again at the end. This year, with one picking at the end we got about 3,000 pounds following a harvest of some 60 tons on three and a-half

acres. It took three men one-half day to clean the ground, or a cost of 6 dols. to get rid of all those fungus breeders. The refuse fruit is hauled to an open place and dumped in a pile with brush under and over it and then set on fire. The pile is not likely to burn up at first trial, but all the outside will burn sufficiently to prevent millions of spores blowing through the air. A few buckets of smudge oil helps the fire do its work. Brush from the fall pruning will finish the job.

PINEAPPLES IN HAWAII.

The Hawaiian Pineapple Company are about to spend £50,000 on new construction, their principal addition being applied to the sugar mill, doubling the capacity of the plant, at a cost of £30,000. In this mill, sugar is obtained from the Pineapple juice and refuse of the packing plant, about 1 lb. of sugar being obtained from a gallon of Pineapple juice. This is added to a proportion of cane sugar in manufacturing syrup for the canning process.

IMPERIAL FRUIT SHOW.

Ardmona Canned Fruits Successful.

At the Imperial Fruit Show, held at Holland Park, London, from October 29, Australian exhibits were confined almost wholly to canned and dried fruits. In the canned fruit sections, the Ardmona (Victoria) cannery, was conspicuously successful, securing first prize and gold medal, and second prize and silver medal for the best Pears and Peaches produced

within the Empire. The fruit was of high quality.

The canning factory was established at Mooroopna last year at a cost of over £40,000, and a further £25,000 has recently been spent in additions. Last year the factory put up 3,300,000 tins—the second largest pack in the Commonwealth. It is a growers' concern, and is to be congratulated on its success.

THE M.I.A.

Canning Fruit Prospects.

A good crop of Apricots is expected at Griffith and Leeton (N.S.W.) this season, and the first supplies were received at the Leeton Cannery early in December. The Manager of the Cannery stated recently that he expected to can between 1,000 and 1,100 tons of Apricots this season.

When finalising arrangements for the transport of Griffith canning fruits to the Sydney factories, Mr. H. G. Such stated that he had never seen a season where conditions were so auspicious as the present one. Good prices were practically assured for Apricots, and the prospects for Grapes were excellent. Peaches would probably turn out better than anticipated. Conditions were also favorable for the satisfactory disposal of next season's citrus crops.

SHEPPARTON CANNERY.

The prospects for a successful canning season at Shepparton, have been jeopardised by the ravages of the Rutherglen bug. Unless this pest is checked, growers are likely to lose the results of their year's work.

South Australia

The Waikerie Settlement :: Citrus Growing

WAIKERIE, RIVER MURRAY, S.A.

Interesting Notes.

The area of the Waikerie Irrigation Settlement is approximately 3,000 acres.

The principal fruits grown are:—

Apricots.—Promise a very large pack; set well, large fruit, and very clean. Trees in excellent heart, and as market is bare, this grower is well on velvet this year. The early varieties are already being sent to market, bringing 14/- to 16/- f.o.r. Waikerie.

Nectarines.—Proved fair setting and fruit indicates excellent sample, which is usual in our district.

Pears.—General report indicates short crop, not only at Waikerie, but throughout the River Districts.

Figs.—Very fair indeed.

Prunes.—Very fair indeed.

Currants.—Very excellent setting throughout the district is recorded, and fruit of splendid size. Bunches of large shoulders, and in special worked orchards, double shoulders are much in evidence.

Sultanas.—Give excellent promise of a large crop, especially with the favorable weather that has greeted our area this season.

Lexias.—This grand old Grape always stands up well, but this season it certainly shows an extraordinary crop, and never before have I experienced such a splendid promise and no doubt distilleries will be kept busy.

Doradillos.—General report, good and excellent, with very large bunches and heavy shoulders.

Oranges.—The beautiful Murray Valley Navel is standing up as well as usual, and in well-worked orchards, trees are looking splendid; flowering stage is over, and setting a little early to determine and to estimate the crop, but general opinion indicates a larger pack than last season.

Common Oranges.—As above.

Mandarines.—As above.

Lucerne and Fodder Grass.—All doing splendidly.

Hay, Oats and Wheat.—A very excellent season.

Sheep and Stock.—As fat as the Commonwealth Budget.

General News.

State Bank of S.A.—This Institution opened in August last, and much is to be said for the wisdom of our Government. Growers are taking ad-

vantage of its operations, which are so much in their favor, especially to young settlers of short cash, who are financed on their improvements from time to time (or in other words advance on man's energy), thus cutting out the slacker, and very satisfactory financial assistance is being rendered to co-operative packing shed and distillery.

Packing Shed.—The Waikerie Co-operative packing shed is our main concern, managed by a Board of Directors, who are growers.

This company has to be congratulated for the steady and sane progress it has made, and is making, and it is looked to with hopes that in

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

the near future this company will process the whole of the fruit, and lessen the cost of grading and processing, and private sheds quietly leaving the field, and when the whole of the fruit can be drafted from one centre, a further cost cut must assert itself in purchasing power of box material, and finally the most important, uniform grade, boxes all alike, registered brand established, and a decent sized parcel to ship to that man who buys big, and wants what he ought to get, to say nothing of increasing our goodwill for the label the goods will carry.

Distillery.—This structure is beyond doubt the best venture, our packing company being such an important factor to the producer, which enables all low grade fruit to be profitable to packing sheds, and growers direct. It is very pleasing to record that our white spirit has topped the list, and the new venture of wine-

making has proved very satisfactory. Again with thanks to our Commonwealth Government for reducing the outward or export duty to 2/- per gal.; but even so the Government must remember that this 2/- is an extra they would not have received, if not reduced to meet world's competition.

Higher Primary School.—Splendid school, on high elevated position, overlooking orchards and river. Headmaster and staff very popular; attendance very satisfactory, and some 200 children are recorded. School band of 60 strong; boys play flutes and girls play whistles; the band contested in Adelaide Show, and won on all points against all-comers, including city contestants. School Board, excellent Committee of hard heads. Improvements to school ground are indeed a credit to Committee and a comfort to the children. School of cooking for the girls; school of carpentry for the boys; music and sewing, special mention.

Churches.—Church of England, Methodist, Lutheran—all good class buildings and good positions.

Transit.—This important section is well in our favor, and tends to make Waikerie properties worth £50 per acre advance on other river districts.

Firstly.—Railway direct to Adelaide, which, with a connecting line right into our packing stores, means direct to Perth or Brisbane, to say nothing of in, and back loading, which is taken advantage of every time, and a further profit of course to the grower.

Secondly.—Boat service, which taps some main rail heads, such as Morgan, and Murray Bridge.

Motor transport is also established. Motor passenger service is excellent, and we make Adelaide in five hours; private car sometimes less (or more)!

District Council and District Hospital.—Both doing good work; big district.

Pumping Station.—At the moment some 28 men are engaged; plant uses 6,000 tons of wood per year. Plant has done good work, but now out of date. Government is calling tenders for new plant (to be oil driven), and it is anticipated that six men can fix the job.—E. H. Everett.

APPLES IN STORAGE FOR YEAR AND A HALF.

At the Adelaide Royal Show an exhibit of very much interest to fruit-growers and the public, but more especially to Apple growers was a dish of Apples which was taken from a case which had been in the Producers' Cool Store, East End Market, for 18 months. The Apples retained their

flavor, and, considering that they had no special care taken of them, were remarkably good. Also from the same store there was an exhibit of magnificent Rome beauty Apples, grown by Mr. F. F. Redden, of Cudlee Creek, which had been in store for seven months. They were of excellent flavor, and compared favorably with fresh picked fruits. These exhibits gave an irrefutable proof of the value of cold storage to producers generally and to Apple growers in particular—"Garden and Field."

A SOUTH AUSTRALIAN CITRUS GROWER.

We were pleased to see Mr. L. J. Wicks, of Highbury, South Australia, who reports that he has gone out of the nursery business with the exception of Roses. He is devoting attention to his citrus orchard, and the growing of vegetables for the Adelaide market. The Compuda variety of Orange bears splendid crops; the fruit is oval in shape, luscious and juicy, of better quality than the Valencia. The fruit hangs on the trees till Christmas. During December this fruit was bringing £1 per case in Hobart.

The citrus grove is watered with the Pope sprinkler system, the water being pumped from the Torrens River and delivered at 25 lbs. pressure through the pipes, which are laid on the ground. In the length of the pipe there are 16 sprinklers, which each delivers about 300 gallons per hour at 25 lbs. pressure. The system is entirely successful. The cost of the installation is about £100.

Mr. Wicks states that the system of dusting has come to stay. Certainly there are difficulties in applying the corrective dusts to fruit trees in windy weather, but as regards vegetables the system is complete. Powdered arsenate of lead, powdered Bordeaux mixture, and other remedies for various insect pests and fungous diseases can be readily applied by means of dusting.

Regarding the Marketing Bill for South Australia, Mr. Wicks is in direct opposition. He believes that the growers cannot effectively organize by legislation. In the present instance the so-called Growers' Board includes two growers' representatives, two Government representatives, and a Chairman appointed by the Government. With regard to the proposed Fresh Fruit Export Control, Mr. Wicks is equally in opposition. Proposals often look nice when set out on paper regarding the functions of these boards and controls, but they do not work out in practice.

THE TOMATO GROWER.

Victorian Grading Regulations : The Pulp Rebate.

TOMATO GRADING REGULATIONS.

THE Superintendent of Horticulture (Mr. J. M. Ward), desires the attention of growers and consumers to be drawn to the fact that consignments of Tomatoes are arriving in Melbourne which do not comply with the Fruit and Vegetable Packing Regulations, 1926, which came into force on December 1.

Already several consignments from the northern areas have been placed on the market, and in many instances Tomatoes varying in size from 1 inch to 4 inches, as well as green, medium ripe, and ripe Tomatoes, have been found in the one case.

For the information of growers and consumers, the Fourth Schedule to

Factory Tomatoes.—Tomatoes intended for factory purposes shall be sound and free from disease, and shall be labelled "For factory use only."

The regulations also require that the fruit shall be so packed in any case that the top layer shall be a true indication of the contents.

Marks.—In relation to marks, it is necessary for all growers, when despatching fruit to market or factories, to indicate clearly on one end of the case the initials and surname of the grower, or his registered brand, as well as the locality of production; also the quality and size standard, such as—W. G. Thomas, Echuca. Tomatoes. Ripe. 3 inch. to 4 inch.

The quality and size regulations are in accordance with the wishes of a Tomato Growers' Conference held at Bendigo a few months ago, and it should be understood that they will be strictly administered.

TOMATO GROWERS' TROUBLES.

OWING to the unfavorable weather last season, the Tomatoes did not ripen, and the factories were left with a shortage of sauce. To meet this the factories, being granted a rebate of £28 per ton, imported Tomato pulp from overseas (it is to be hoped the pulp is better than the hay was the year of the drought).

Why was this rebate granted? It is not fair to the grower. In a glut year he has to take what he can get for his produce, sometimes not a payable price.

In a year of a light crop, when prices are good, a rebate is granted, making a farce of duties and protection of rural industries.

If Parliament saw the necessity of imposing this duty, it is for the protection of the growers. Why rob them of it?

It has just come to my knowledge that the factories have raised the price of Totmato sauce 2/6 per dozen in the last three months. Who is reaping the benefit—the public or the manufacturer? The factory, every time, and the Customs are £28 per ton worse off on 250 tons of pulp.

In 1924 season—the last time I grew Tomatoes—I sent to the Victoria Market, 496 cases, for a return of £52/19/6, average 1/3 per case. I left the balance to rot. Out of the 1/3 we had to pay all expenses. No wonder our sons go to the cities.—J. Handasyde, Wantirna, Victoria.

Bankers:
COMMERCIAL BANK OF AUSTRALIA,
 Collins Street, Melbourne.
 Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL
 Consign your Fruit to
FRUITGROWERS DEPOT
 (Licensed and Registered by the Government of Victoria).
 Managing Director—M. J. FOY.

Wholesale Fruit and Produce Commission Agents
 Importers and Exporters of Interstate Fruit
471 Flinders Lane, Melbourne
TELEPHONE F 1392.
 Telegrams: FRUITGROWERS,
 471 Flinders Lane, Melbourne.

the Regulations reads as follows:—

Quality Standards for Tomatoes.

Ripe.—Tomatoes to be from two-thirds full colored, and to be sound and free from disease.

Medium Ripe.—Tomatoes to be from one-third full colored, and to be sound and free from disease.

Green.—Tomatoes to be green to greenish-yellow in color, and sound and free from disease.

The Sixth Schedule, which refers to size standards for Tomatoes reads:—

Size Standards for Tomatoes.

Small.—To include all Tomatoes under 2 inches in diameter.

2 inches to 3 inches.—To include all Tomatoes from 2 inches in diameter up to 3 inches in diameter.

3 inches and over.—To include all Tomatoes over 3 inches in diameter.



CITRUS GROWER ABANDONS CULTIVATION.

"I NEVER CULTIVATE," says a Citrus grower who has not meddled with the soil of his grove for over four years, in "Citrus Leaves" (California), for September.

Now he has rows of strong, healthy Navel Orange trees with grass, weeds, Alfalfa, and sundry other plants in profusion in between.

Soil dry ten inches down from the surface, but roots 14 to 18 inches beneath the ground and in a moist, healthy condition.

No irrigation for 60 days, and no wilt—and that in trees that formerly wilted when irrigated every 22 days.

W. B. Cook, Glendora, threw ploughs and cultivators into the discard in 1922. Since that year, his 10 acre grove has not been cultivated. Nature has taken its course, followed its own dictates and filled the grove with Bermuda Grass, volunteer Alfalfa and Clover.

Accomplishments of Plan.

Growers shook their heads when Mr. Cook abandoned cultivation—the step was too radical. His plan, however, has so far proven highly successful.

He has accomplished several definite things:—

1. His trees no longer wilt and curl.
2. Plough sole is eliminated.
3. Fruit is larger and healthier and more abundant.
4. Trees more robust and better color.
5. Cultivation costs are eliminated.
6. Earth is loose.
7. Roots are deeper in the soil.
8. Twenty-five per cent. increase in size of trees.

Effect on Soil.

Oranges hanging on the trees in the middle of August would run 218's

and some larger. A soil test made by H. L. Thomason, service representative of the Mutual Orange Distributors, after the grove had not been irrigated for two months, showed that the roots were down 14 to 18 inches; that the surface 10 inches of the soil was comparatively dry but the root area sufficiently moist. Under such several days of the most severe hot conditions, the grove can withstand weather.

Important Features.

The grove is located on sloping ground; the soil is a gravelly, decomposed granite mixture, and the piece has excellent natural drainage. Since the natural growth of grass has begun, a thick mat of stems and leaves has accumulated between the tree rows, in some places being several inches in depth. Finer twigs and leaves have gradually washed down through the loose gravel.

Irrigation Plan.

At an initial cost of about 300 dollars per acre, a special irrigation plan was adopted. Permanent pipe lines have been laid between every other row with turn-outs for each tree. The trees are basined so that the owner need only turn on the water and let the basins fill for the required length of time. Spread over a period of ten years, with a 10 per cent. depreciation per annum, the cost for the first years will amount to 300 dollars per year. After that period of depreciation the cost of operating the grove is reduced to an absolute minimum.

Effect of System.

Prior to the adoption of the no-cultivation system, the leaves of the trees often curled and wilted during dry periods, even though irrigated every 22 days. This tendency has been eliminated. A well defined plow sole was experienced before cultivation was discarded. This difficulty is naturally done away with under the new system.

The trees have made a decided increase in size and yield, and are above the average for the district, and the present crop, both in size and quantity, is likewise above the general run for the community. The increase in the size of the fruit has been one of the most prevalent good results. Fruit is of fine texture and quality, well distributed on the tree, and the branches of the trees are strong and healthy.

Since 1922, the grove has had a consistently good yield of good fruit and the Navel crop now maturing should run from six to seven boxes per tree.

Divergent Views.

There are successful growers who take a pardonable pride in a grove that is carefully cultivated. On the other hand, one finds a group thoroughly convinced that cover crops are essential to good production, and still another group which does no monthly cultivating, but plows under the weeds and natural growth once a year.

The plan adopted by Mr. Cook four years ago will be followed with keen interest by many observing growers. If the elimination of cultivation, with the consequent reduction in overhead expenses, succeeds in building better trees and better crops, then the step will probably be taken by others. The question of soil types, drainage and many other factors enter into such a programme, and growers should exercise careful judgment before abandoning a practice which they have followed successfully in their own groves.

Basis of Profit.

Profit depends upon the production of quality fruit, at an economic minimum cost. The reduction of cultivating costs opens the way for wider margins of profit only when quality and production are bettered or at least remain normal.

To date, the operations of Mr. Cook appear highly profitable and beneficial. Time will tell the rest of the story, but the past four years have given a good indication of the efficiency of his endeavors.

CITRUS IN FLORIDA.

Citrus fruits still remain the most important farm crop in Florida, says the September issue of the "Florida Grower," being more than half the total perishable product shipped from the State.

The commercial Citrus crop moved out of the State by rail and boat amounted to 14,694,120 boxes. Approximately 750,000 boxes were consumed in the State, canning factories used 435,000 boxes and 250,000 boxes were moved by truck.

Nearly 200 inspectors were employed by the Inspection Division of the Florida Department of Agriculture this season in certifying the maturity of Citrus shipments going out of the

dividual to whom the fruit is shipped. Attached to the boxes themselves these stamps, bearing the State of Florida's guarantee that the fruit is mature, would attract the attention of persons buying Oranges and Grapefruit at wholesale or retail.

GROWING CITRUS FRUITS.

Californian and Australian Soils Compared.

In connection with his report on the California Citrus industry, Mr. C. H. Katekar, of "Fairview," Renmark, S.A., has kindly forwarded the following soil analyses, comparing the soil values of an Orange grove in California and one at Renmark:—

	Orange grove.	Cal- Ren-
	mark.	mark.
	%	%
Fine earth in original soil	67	93
Moisture in 100.c.	0.61	1.27
Organic Carbon C.	0.42	0.35
Nitrogen N.	0.043	0.032
Lime, C.A.D.	2.25	0.26
Potash, K2O	0.62	0.30
Phosphoric Acid, P2O5	0.075	0.058
Sodium Chloride, I.E.	—	—
Chlorine expressed as NaCl	0.003	0.004

The main outstanding difference, says Mr. Katekar, appears to be the fact that the Californian soil is considerably richer in lime than my own Renmark soil; it is also appreciably richer in both potash and phosphoric acid. The Californian soil I took from what I considered to be the finest Orange grove in Southern California.

TEACHING CITRICULTURE IN SOUTH AFRICA.

A special course in citriculture, intended primarily for overseas settlers desirous of taking up Citrus-fruit growing, will be conducted by the Department of Horticulture, Transvaal University College, Pretoria, South Africa, from March to May, 1927. The course will comprise five lectures and one practical period per week, together with visits to important Citrus centres.

Lectures will cover all phases of Orange growing, such as nursery practice, bud selection, irrigation, fertilisation, insect and disease control, picking, packing, and marketing. The course is designed to reduce the mistakes made by new settlers in the past. The Institution in question is the only one in the British Empire giving university work in Citrus and sub-tropical fruits.

CALIFORNIA CITRUS CROP ESTIMATE.

The condition of October 1 of the California Orange crop for 1926-1927, as estimated by the co-operative federal and state crop reporting statistician at Sacramento, was 83 per cent. of a normal as against 82 per cent. October 1, 1925, and a ten year average of 76 per cent. There has been a slight improvement during the past month particularly in the Valencia districts, the report states. There is an improvement in the Lemon outlook. The condition as of October 1 was estimated at 92 per cent. of a normal as against 80 per cent. at corresponding date a year ago and a ten year average of 78 per cent.—"Citrograph."

FLORIDA CITRUS CROP PROSPECTS.

It is anticipated that the commercial citrus crop in Florida during the 1926-27 season will reach 17,000,000

'Phone Central 8479

F. W. Vear

**Fruit Importer
and Exporter**

COMMISSION AGENT

**49 WILLIAM ST.,
MELBOURNE, VIC.**

**Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.**

Account sales with cheque daily.

State until November 26, when the State's regulations are lifted. A school for inspectors to instruct them in their work was held at Citrus inspection headquarters at Haines City.

ADVERTISING CITRUS FRUITS.

Guarantee of Maturity.

J. Hinton Pledger, supervising inspector of the Florida Department of Agriculture, has suggested to the Florida Citrus Exchange that inspection tax stamps be pasted on boxes of fruit instead of the bills of lading, as is customary now. Such a practice, he declares, would be of great advantage to the Citrus industry as an advertising medium. The tax stamps are now attached to the bills of lading and are seen only by railroad employees handling them, and the in-

Clifford Barnsbee

Export & General Agent
Display House, 323 Bourke Street
MELBOURNE

Sole Representative in Victoria
and Tasmania for
MORGAN & WILMINGTON,
Turbot Street Fruit Exchange,
Brisbane.

Reference.—Primary Producers'
Bank of Australia.

B. P. B.,
B. P. BROADBENT,
City Market, Sydney.

Reference.—E. S. & A. Bank,
Haymarket.

Also "Elephant" Brand Spray,
Blackburn Casemaker Pty. Ltd.,
and Wrapping Paper.

Agencies in
**Covent Garden, London, and
Germany.**

'Phone: Central 1837.
Cables—"Finson," Melb.

boxes. This includes 9,600,000 boxes of Oranges and 7,400,000 boxes Grape Fruit, as compared with last season's yields of 8,200,000 boxes Oranges and 6,500,000 boxes Grape Fruit.

THEY KNOW WHAT'S GOOD!

Rats have taken such a liking for Grape-fruit, Lemons and Oranges, states the California Department of Agriculture, that packing houses have had to adopt protective measures. These rodents formerly paid no attention to citrus fruits, believing them only fit for human consumption. How they became converted, the department states, is still a mystery, but it is true that rats have opened and despoiled many fruits of their seeds. Doubtless they represent the later generation of those upon whom dieticians have been experimenting in the pursuit of facts concerning vitamins.

Empire Marketing Board

Activity in Great Britain : Its Work From May to September, 1926.

THE EMPIRE MARKETING BOARD was established in accordance with a recommendation of the Imperial Economic Committee, who proposed in their first report, that an "Executive Commission" should be formed, "with the duty of conducting the movement for trade in Empire produce." The Board was established for this general purpose, and also for the purpose of advising the Secretary of State for Dominion affairs as to the manner in which the annual grant of £1,000,000 (in the current financial year, £500,000), should be expended in the furtherance of the sale of Empire products (including home-grown agricultural produce) in this country. That grant, it will be remembered, was promised by the British Government in lieu of certain preference in favor of Empire-grown foodstuffs which the British Government, as the result of the events which followed the last Imperial Conference, felt unable to put into effect.

The Government invited the Imperial Economic Committee to make suggestions as to the general lines on which this grant should be spent, and the Empire Marketing Board is charged with giving practical effect to such of the Committee's recommendations as may be approved by the British Government.

Thus the Board has a dual outlook. It gives counsel to the Secretary of State in his administration of a grant for which he must be responsible as a member of the Government to Parliament which has voted it. But, as the body which follows up the recommendation of the Imperial Economic Committee—a Committee directly responsible to the Prime Ministers of the Empire—it looks also towards the producers in all parts of the Empire, whose interests it seeks actively to serve. In this latter aspect, in particular, its work is of direct concern to both Governments and peoples overseas.

The Board was appointed towards the end of last May. It has since held regular meetings under Mr. Amery's chairmanship, and its work has been actively prosecuted by a number of Committees. The activities of the Imperial Economic Committee and the Empire Marketing Board are linked by a strong common element of membership.

It is the Board's constant aim to keep its work free from any consid-

erations of party politics, and to frame a programme which not merely all parties in this country, but also all the Governments of the Empire overseas may unite in regarding as a valuable and non-contentious contribution to the development of the Empire's economic resources.

Another principle of the Board's work has been to avoid the creation of new machinery when suitable Departments or Institutions already existed. Its agreed policy is to work through other agencies wherever possible, and to undertake as little direct work as conditions permit. This policy is qualified only by the consideration that the Board has ground to break in certain directions—especi-

T. J. POUPART

Ltd.

Covent Garden, London, W.C.2

and 3 Love Lane, Eastcheap, E.C. 2

*The Premier Firm of Fruit
Salesmen in Great Britain*

Sale by Private Treaty only (Gives best results)

Commission the exclusive basis (purchase propositions cannot be considered)

Advances offered to cover freight and accessory charges

Victorian Representative:

FRED. J. ANDREW

416 Little Collins Street, Melbourne

ally in publicity and marketing investigations that no existing Government Department or other body has yet attempted to touch.

In large measure the Board's work has been a continuation of the work of the Imperial Economic Committee, who have so far published four reports, viz., General, Meat, Fruit and Dairy Produce Reports.

The more detailed notes which follow show how the Board has followed up particular recommendations made in these reports. But two general recommendations may be emphasised at the outset:—

(1) The Imperial Economic Committee have made it clear throughout their reports that they looked to the Empire Marketing Board to take a wide view of its functions. The Board has endeavored to follow this recom-

mendation, and has tried at the outset to make a general survey of the work that lies before it, rather than to embark lightly upon projects that might dissipate alike its energies and its funds. It will be seen that the Board's attention has not been confined to mere marketing in the United Kingdom, but has been directed to every stage of the process of production and distribution of which marketing in the United Kingdom is but the last step.

(2) The Imperial Economic Committee laid down emphatically at the outset of their first report that the marketing of Empire products included the marketing of home-grown produce. "The whole Committee," they reported, "wish to see precedence given in the British Market for food-stuffs in the following order:—

Home Produce First
Dominion and Colonial

Produce Second
Foreign Produce Third

The Board has never lost sight of the claims of the home-producer as thus established.

The Board's work was seen from the first to fall naturally into two main branches—that of Publicity and that of Research (including both scientific research and economic investigation). Two main Committees were, therefore, formed to deal with these two subjects. The Publicity Committee is to direct into the appropriate scientific and economic channels the problems involving research or investigation that came before the Board. In the account of the Board's work which follows, its activities are grouped under the three headings of Publicity, Scientific Research, and Economic Investigation.

(To to continued.)

HORTICULTURAL INSECT PESTS.

We have received from the Vacuum Oil Co. Ltd., a useful booklet, published in England, under the above title, giving valuable information regarding insect pests of fruit trees and garden plants. Descriptions are given, together with the life history and method of attack, and a table indicating the effectiveness of Gargoyle Spraying Oil for their control. Instructions are given for the preparation and applying of the spray, types of sprayers, time to spray, spraying oil as an auxiliary to fungicides, etc. The various pests are clearly illustrated, and the booklet is a credit to the publishers.

ELECTRICAL TREATMENT OF CROPS.

A very interesting account of experiments in the electrical treatment of crops is given by Mr. R. A. Rushforth, in a recent issue of "The Field." The following are extracts from his letter to that journal:—"The electrical treatment of crops suggests a maze of wires and costly apparatus, but this system, which was successfully tested last season, duly witnessed and proved to be effective, includes only the simplest of apparatus and two overhead wires; furthermore, no main supply of electricity is necessary, for one charging of a battery of Leclanche cells proved sufficient for the whole growing season. The tests last season were confined to Potatoes, and the results obtained from two adjacent plots of ground, conditions exactly similar in all but electrical treatment, were as follows:—

- (1) The plants under electrical treatment gave an increased yield of 51 per cent. by weight.
- (2) They produced a far superior sample of Potato, entirely free from attack by pest or blight, while the others in the adjacent plot were badly affected.
- (3) The electrified plants produced thicker stems, healthier and stronger plants with deeper green leaves covered with a kind of sheen.
- (4) The electrical influence did not hasten the maturity of the plants.

The experiments were suggested by passing electric shocks through a bowl of water which contained wireworms, grubs, slugs, etc., found in the ground under cultivation. The first momentary application of the shock killed off all but the wireworms. They wriggled most vigorously in apparent discomfort at first, but finally became hardened against the influence of the current and seemed even to prosper under their new conditions. It was the momentary shock that they could not resist. By a series of momentary shocks applied regularly every few seconds they could be killed, and the most effective time interval between the shocks appeared to be 30 seconds. After ten or a dozen of these momentary applications of the current all the wireworms were dead.

From the point of view of the stimulant for the plants, and also of economy in the running costs of the experiment, this idea of momentary shocks appeared to be very pleasing, so a device was arranged which would

discharge the current from a battery of cells, just for a moment, at regular intervals of half a minute. The experimenter decided also that he would switch off the current entirely during each night and only give the treatment during the daytime.

A thin ribbon of sheet copper, about $\frac{3}{4}$ in. wide, was buried about 6 ins. deep in a furrow along one side of the plot, and another copper ribbon was similarly buried down the opposite side. The electric shocks were to pass from one ribbon to the other, through the soil, thereby giving the electrical influence to the pests and to the plants. In order to distribute the influence of the shock equally over the land, the ends of the ribbons from opposite corners of the plot were connected by two overhead wires to the terminals of an induction coil. This has proved an important point, for other plants which are under treatment this year in a plot connected otherwise show that

emptied from the tin lid after causing this electrical contact, and the balance returned to its original position. The rate of dripping water was adjusted so as to cause contact to be made every half-minute. A pail of water lasted for the daytime and was refilled each morning after the rest period had been given during the night. The whole of the apparatus can be housed conveniently in a box at the side of a field. The only attention required is the filling of the pail with water each morning; but the special feature of the treatment, apart from its economy in permanent installation and running costs, is that the apparatus, wires, etc., in no way interfere with the ordinary tillage operations of the land.

"One more point remains to be considered—how to test the strength of current required. This is done by breaking one of the overhead leads from the coil attaching two small copper plates to the broken ends, and immersing these copper plates in a bowl of water. It will then be seen that the current will pass through the water in the bowl at the same strength as it passes through the land. By placing some of the live pests in the water, the strength of the current can be increased until it has the desired effect. After the necessary strength is determined, the bowl is removed and the breakage in the overhead lead repaired.

"A world of experimental work on these lines is opened up, but the general principle so far discovered is that electric current of suitable strength passed momentarily through the soil at regular intervals during the daytime will not only kill the common pests and produce stronger, healthier plants which can resist blight and disease, but also materially increase the crops yielded."

Fruit Shipments United Kingdom and the Continent

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.
AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

the electrical influence is largely confined to one side of the plot. Two Leclanche cells supply ample current for an acre for a whole season; thus a five-acre field would require the current from ten cells connected in series and passed through an induction coil and thence through the ground. The home-made device for automatically switching on the momentary current at any desired regular interval consisted of a small wooden balance about 6 in. or 7 in. long, pivoted in the centre. On one end was fixed a small lead weight which caused the balance to rest in a horizontal position on a supporting peg below. On the other end of the balance was fixed a tin lid into which water dripped from a pail above. The accumulated water was sufficient to overbalance the lead weight, and this, at its highest position, hit against a spring, thereby closing two contact points momentarily. The water

THE NEW LEMON-ORANGE.

A citrus grower at Anaheim, California (Mr. Harry Shipkey), has produced a new fruit which is a cross between a Lemon and a Valencia Orange, which is being watched with interest in U.S.A. The new fruit is said to be more hardy than either the Valencia or the Lemon, and blossoms and ripens fruit the year round, while the fruit hangs on the tree for a long period after ripening. The flesh is medium in character between the two parents, and is said to have a delicious flavour and plenty of juice. Whether the new fruit will prove of commercial value is still undecided.

Another new American fruit is the "Topepo," a cross between the Tomato and Pepper.



Keeping Fowls is a Profitable Hobby—if They Lay

Yes, but how to get them to lay. That's the question many "Backyarders" are asking themselves, and finding it difficult to answer. Though some may feel sceptical about it, as a result of their experiences, it really is a simple matter. Let's start at the beginning. How old are your fowls? If they are three years and over, forget about them as layers, for they are, to all intents and purposes, past the laying stage.

But, if your feathered "Biddies" are first and second year birds, it is a much different story. They are literally full of eggs, which only need a stimulating food- tonic to enable them to grow and develop. This hot weather in itself has a retarding influence, but when coupled together with the results from soft, squashy food of household scraps, form a pretty effective barrier against egg-laying.

310 eggs—1 month—15 hens

Dear Sirs,—

I am sending you some results from feeding with Karswood Spice. I commenced feeding with Karswood last February, and the effect was quickly noticeable.

I started with 7 White Leghorns and 7 Black Orpington Pullets; and one old Black Orpington hen, and no rooster. From February 8th to February 8th this year, they laid 2,565 eggs, or an average of 171 eggs each for twelve months, the highest production was 310 for one month, and they showed a profit of £10/10/-. Facts speak for themselves.

Yours,

(Sgd.) P. VEEVERS,

5 Federal Avenue, Ashfield.

What your feathered friends then need is a tonic-food—something which will enable them to develop those hundreds of egg-seeds which they each have within them. There is nothing mysterious about this. As a human being finds his health and vitality stimulated and brought up to concert pitch by the use of a prescribed tonic, so your fowls, particularly after a heavy season of laying, need a tonic and will respond to it.

As your fowls cannot get this tonic for themselves, the only thing to do is to get it for them, and the best way to do this is by feeding with Karswood Poultry Spice. Karswood is the only food tonic that contains dried and ground insects, and herein lies the reason for its enormous success. Get a trial packet. One half-pound costs but a shilling, and is sufficient for 20 birds for 16 days. Cheap enough, isn't it?

Note the Economy

- 1/- packet supplies 20 hens for 16 days;
- 2/- packet supplies 20 hens for 32 days;
- 13/- (7lb. tin) supplies 140 hens for 32 days.

Supplies

Karswood Poultry Spice is obtainable from all stores and poultry food suppliers at the following standardised prices:—

$\frac{3}{4}$ lb. packet	Price 1/-
1lb. packet	" 2/-
7lb. tin	" 13/-
14lb. tin	" 25/-
28lb. tin	" 48/-

If your local dealer cannot supply you, write direct to Messrs. Henry Berry & Co. Pty. Ltd., 568-580 Collins St., Melbourne, adding postage—6d. on $\frac{3}{4}$ lb. packets and 9d. on 1lb packets—to the above prices.



POULTRY IN HOT WEATHER.

Guard Against Losses.

H EAT waves are sometimes a serious cause of loss to poultry keepers. These deaths are due to high blood pressure, brought about by the feeders injudiciously endeavoring to keep the birds tuned up to concert pitch in unsuitable weather. Were they content to secure a few less eggs in the extreme heat the layers would be saved for future work.

The necessity for shelter and plentiful water supply is, or should be, known to the merest beginner in poultry-farming, but the advisability of modifying the diet in extreme heat is not sufficiently recognised. If meat-meal and maize were cut out of the feed, and in the absence of fresh greenfeed Epsom salts given daily, the losses by death from heat would greatly be reduced.

The birds should be kept on spare diet on hot days, and a full meal of soft food given, not as usual in the morning, but in the evening only, when the temperature has moderated. Half a meal is quite sufficient in the mornings, when extreme heat is probable. Insufficiency of succulent greenfeed and overfeeding of a forcing diet are the causes of the greater number of heat deaths. The latter error is easily preventable, though unfortunately the former is not.

CHARCOAL FOR FOWLS.

The value of charcoal in the poultry yard can hardly be over-estimated. A small quantity of granulated charcoal should ever be within reach of the birds. Although it is not a food the fowls, through its use, will gain in flesh and supply eggs more freely. Charcoal will put fowls in the best condition for egg-laying and keep them there.

Because of its great capacity, charcoal prevents many of the ailments to which poultry is prone, by absorbing deleterious gases, acids, and impurities. In putrid diseases like roup, in fermentations like sour crop, in intestinal maladies, like diarrhoea or

cholera, it is of much benefit. Give the hens charcoal in sufficient quantity to meet their demand for it.

"APTO" SALE PRICES REALISED.

Poussins, 7d. to 1/3; grillers, 1/6 to 3/6; W.L. cockerels, 3/6 to 7/11; colored cockerels, small, 4/- to 5/3; medium, 5/6 to 8/6; heavy, 9/- to 17/1; W.L. hens, 3/6 to 4/7; colored hens, 4/- to 10/1; special, 11/3; Muscovy ducks, 9/9 to 11/-; Muscovy drakes, S.W., 11/- to 13/9; good, 15/- to 17/9; geese, 15/- to 16/3; turkey gobblers, 32/6 to 56/6; turkey hens, 26/6 to 31/6; squabs, 2/3 to 3/1. All prices at per pair.

GOVERNING BEE-KEEPING.

The Requirements of the N.S.W. Act.

Many people are unaware of the regulations governing bee-keeping, remarks a departmental publication. The chief provisions of the Act are stated briefly as follows:—

All bees must be registered, whether kept only for private use or otherwise. Annual registration has been abolished; when an apiary is once registered no further registration is necessary. Should an out-apiary be established, however, application for registration should be made, and should a bee-keeper dispose of his bees to another person or alter the location of his apiary, the Department of Agriculture must be notified. No fee is required for registration.

All apiarists must keep their bees in frame hives. The use of box hives is prohibited.

The outbreak of any disease must be reported at once to the Department.

A penalty of £20 is provided by the Apiaries Act for neglect to observe any of these provisions.

The above provisions apply equally to the owner of one hive of bees and to the owner of larger numbers, with no exemptions. The keeping of bees in frame hives in which they have been allowed to build their combs diagonally or in any form that prevents their removal without cutting is also an offence under the Act. In fact, the box hive is to be preferred to a frame hive in which the combs have been badly built. The transference of bees from a box hive to a hive which answers the requirements of the Act is an easy matter compared to the cutting out of badly-built combs.

The objects of compulsory use of frame hives are to facilitate the work of apiary inspection and the control

A REMARKABLE FACT!



IS THE ONLY SELLING FLOOR IN THE
— STATE OF NEW SOUTH WALES —

entirely engaged in the disposal of

POULTRY KEEPER'S PRODUCE ONLY

We fight to maintain the price of the product we handle, and being disinterested in any other farm product, have no need to encourage price cutting to sell other lines. We sell on a commission basis only, and the greater the price realised the more it is to our advantage

Essentially a Poultry Farmer's Selling Floor

The Australian Poultrymen's Trading Organisation

TURKEY, EGG AND POULTRY SALESMAN

7, 8 and 9 MUNICIPAL POULTRY MARKETS, ULTIMO
ROAD, HAYMARKET. Phone: City 1154.

Crate and Egg Case Labels Posted on Application.

and eradication of diseases found in bees. Protection is thus afforded both to the apiarist who keeps a few hives as a sideline and to the commercial bee-farmer who depends upon his bees as a source of livelihood.

A WATER SUPPLY FOR BEES.

An Effective System.

Where many bees are kept, and the water supply is limited, they become a nuisance to stock, and sometimes a source of ill-feeling between neighbours in consequence. Bees are also very annoying, when the weather is hot, about the apiarist's home, round water-taps, tanks, and the drinking dishes of poultry, and any other supply of water rather far from the apiary; says a Victorian Departmental Bulletin on bee-keeping.

One apiarist was confronted with all the troubles enumerated when first establishing his apiary in its present location. An automatic artificial supply close to the apiary has overcome these difficulties, and has now been working continuously for 15 years without a hitch.

The water is obtained from the roof of the honey house, and stored in two tanks of 1,000 gallons each. An iron water-pipe, laid underground (18 inches deep) to keep it cool in summer, conducts the water to the drinking troughs, which are at a distance of about 100 feet from the building, and the same distance from the nearest hives. This distance is necessary, otherwise the bees, when flying to and from the water, interfere with work in the apiary, and also cause confusion at swarming time.

There are two drinking troughs. They are placed on a stand at a height of 3 feet from the ground, to prevent poultry going to them, and to keep out drifting leaves and other material. Each trough measures 36 inches by 24 inches inside, with a depth of 6 inches, and consists of a frame made of 6 by $\frac{3}{4}$ white Baltic flooring boards, with a bottom of 6 by $\frac{3}{4}$ lining boards. It is lined with plain galvanised iron, No. 26 gauge, neatly fitted inside the wooden casing, to which it is secured at the top with fine tacks.

Provide Several Troughs.

It is advisable to have several troughs instead of a large one of the same surface area as two or three combined. If only one large trough is used the bees are too much concentrated, and a good deal of fighting and stinging takes place occasionally.

It is better to have several troughs a little distance apart, and if they are placed on the same level, and connected by means of a piece of garden hose attached to a stud at the bottom of each, one stand pipe, with automatic tap, will supply them all.

On the top of each trough floats a raft, upon which the bees alight to drink, and it is so constructed that they cannot drown. Even dead bees cannot drop into the water and thus pollute it. The raft is made of slats of $\frac{1}{2}$ inch lining boards, 35 $\frac{1}{2}$ inches long, 15-16th inch wide, and $\frac{1}{2}$ inch thick. The edges on the upper side are planed away at an angle of 45 degrees, so that when the slats are placed side by side they form V-shaped gutters, with an opening 1-16th inch wide at the bottom.

Twenty-four of these slats are nailed on to three cross-pieces of $\frac{3}{4}$ inch flooring board 23 $\frac{1}{2}$ inches long and 2 inches wide, in such a way that the thin bottom edges of the slats are 1-16th inch apart. The raft is then fitted into the trough and dressed till a space of not more than $\frac{1}{8}$ inch remains all around between the raft and the lining of the trough. To keep the raft always at the proper level, that is, with the water not higher than about $\frac{1}{8}$ inch between the slats, air-cushions are fastened underneath the raft, one at each end.

They are made of light zinc, such as the lining of piano or drapery cases, or they may be made cylindrical of galvanised iron. Fold a piece of this material, cut to the correct dimensions, over a piece of wood 35 inches by 5 inches by 1 inch, solder the joints, and, after withdrawing the board, also the end. It may be tested as to being airtight by pressing it under water to see whether air-bubbles escape; if so, there is a leak which has to be resoldered.

In soldering zinc, raw spirits of salt, diluted somewhat with water, should be used, not killed spirits (chloride of zinc). This rule also applies to galvanised iron. The solder-iron should be clean, well faced with solder, and only just hot enough to melt the solder, but not the zinc; this is only possible if the solder is of good quality.

If the air-cushions raise the raft too high at first the latter should be weighted down to the proper level by means of small stones evenly dis-

tributed. As the wood becomes saturated with water they may be removed as required.

DRIED FRUITS GRUB.

New Process for Control.

Recent cables have stressed the difficulty of marketing Australian Dried Fruits in England, owing to the development of grub in the fruit during transit and its arrival in an unwholesome condition. This state of affairs not only strikes a serious blow at Australian prestige in markets abroad, but also involves enormous loss to the grower in Australia.

The treatment of all fruit prior to export is strongly advocated as the best means of insuring the landing of the fruit in a healthy condition.

Remarkably successful results have been achieved under Government supervision by a process used by the new Hydro-Vacuum Company Ltd. Boxes of fruit packed ready for export are placed in a kiln and under vacuum a gas is introduced which destroys all insect life, whether in egg, larvae, or moth form. The treatment occupies only a few hours.

On 22nd October, at the company's kiln established at the works of G. F. Sewell Pty. Ltd., Cross-street, West Footscray, with the co-operation of the Mildura D.F. Association, an interesting test was made under the supervision of Mr. McKinnon, of the Council for Scientific and Industrial Research.

Fruit treated by the process was placed in hermetically sealed cartons and despatched to London along with untreated fruit supplied by the Mildura D.F. Association in the usual export boxes. The condition of the fruit on arrival will be carefully observed and reported by officers of the British Food Commission.

VENTILATED FRUIT CASES.

Success of the "Climax" Case.

Thorough and complete ventilation of fruit cases insures success, e.g., the Government shipment of Ohanez Grapes. They arrived in better condition than any previously received in London from Australia. Why? Because they were sent in Patent "Climax" Cases, which afford effective ventilation all the time, from grower to consumer. Ship your Apples, Pears, Citrus and soft fruits in these automatically, self isolating cases, if you wish success. For particulars, write W. Martin Green, Horsley-street, Bentleigh, Victoria.

PATENTS
GEORGE A. UREN
PATENT ATTORNEY
"HENRY HOUSE," 499 LITTLE COLLINS ST
MELBOURNE.

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS, Advertising in this Journal. NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.
Rule & Beavis, Fruit Exchange.

VICTORIA.

Melbourne.

Fred, J. Andrew, 416 Little Collins St., Melbourne.
Clifford Barnsbee, 323 Bourke St., Melbourne.
Producers' Dist. Society, Western Market.
Cave F. & Co., Melbourne.
H. G. Colombie, Temple Court, Little Collins St., Melbourne.
Davis, J., Western Market.
Dennys, Lascelles Ltd.
Fruitgrowers' Depot, 471 Flinders Lane, Melbourne.
Lister, G., Western Market.
Millis, A. & Sons, Western Markets.
Mills, J. B., & Co., Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L., Little Bourke St., W., Western Market.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Wade & Co., H. M., 471 Flinders Lane.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Finlayson & Son, Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters.
and at London.

Launceston.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Auckland.

Turners and Growers Ltd.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.
Reilly's Central Produce Mart.

GREAT BRITAIN.

Bristol.

Bristol Fruit Brokers Ltd.

Cardiff.

Connelly, Shaw & Co. (also Ireland).

London.

M. Isaacs & Sons Ltd.
Margetson & Co. Ltd., Covent Garden.
Monro, Geo. Ltd., Covent Garden.
T. J. Poupart Ltd., Covent Garden.
Hidley, Houlding & Co., Covent Garden.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Exchange.
MacGeorge & Jardine.

Full.

White & Son Ltd.

B. & J. Shaw.

Coventry.

Roswell Bros. & Davis.

Manchester.

Manchester Ship Canal: Australasian Representative, Capt. W. J. Wade,
8 Bridge St., Sydney, N.S.W.

Glasgow.

Russell, Turnbull & Co.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Asthelmer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hamburg.
Fruchthandel Gesellschaft, Fruchthof.
Stier, Aug. Fruchthof, Reps. J. B. Mills
& Co., Bank House, Melbourne.
Timm & Gerstenkorn.

HOLLAND.

Amsterdam & Rotterdam.

Algemeene Vruchten Import Maatschappij.

DENMARK.

Copenhagen.

København Fugtauktioner.

BRITISH MARKETS.

American Apples and Pears.

London (12/11/26).

Messrs. T. J. Poupart Ltd., Covent Garden, report trade very dull. Heavy supplies of overseas Apples were arriving, and prices were low. Californian Oranges were finished, a few South African and Jamaican being still available. Pears were in good supply, prices ranging from 5/- to 10/- per half-bushel. English cooking Apples were selling better, from 10/- to 14/-, a few extra special up to 20/-. Cox's Orange Pippins in trays realised 6/- to 12/- per dozen fruits.

The Hull and Liverpool branches also reported trade very dull.

Liverpool (10/11/26).

Messrs. J. C. Houghton & Co. also report depression and losses, Oregon and Washington boxed Apples realising 6/- to 11/6. American and Ontario Keiffer Pears were also low, from 4/- to 6/9 box; Washington Winter Nelis touched 15/9.

Total arrivals of American and Canadian Apples to the 10th November number 575,172 barrels, and 443,131 boxes compared with 488,523 barrels and 311,176 boxes to the same date last year; Pears, 49,566 barrels and 77,172 boxes compared with 56,842 barrels, and 76,883 boxes last year. American Plums to the same date totalled 25,012 packages compared with 38,281 last year.

Ottawa, Canada (11/11/26).

Reports from the Canadian Fruit Trade Commissioner in England indicated sales at Manchester on November 9 of Nova Scotian Apples realising from 14/- to 30/-, Cox's No. 1 grade reaching £2/15/- barrel. Glasgow, Liverpool, and Hamburg sales realised similar general prices. Boxed Apples sold at from 5/3 to

10/9. Canadian domestic markets were well supplied, and fair prices realised.

Dried Fruit Sales.

The Commonwealth Dried Fruits Export Control Board advises that the sales recorded with the London agency for the week ending December 16, 1926, were:—92 tons of Sultanias, at an average price of £65/10/2 a ton; 147 tons of Currants, at an average price of £34/14/3 a ton; which brings the total realisations to:—6,887 tons of Sultanias, at an average price of £69/3/7 a ton; 4,451 tons of Currants, at an average price of £39/8/5 a ton; 551 tons of Lexias, at an average price of £37/17/8 a ton.

The Chairman (Mr. W. C. F. Thomas) announced recently that the prices at which Currants may be quoted to Canada are:—Three Crown, 36/- per cwt. c.i.f. and e. main Canadian ports, and Two Crown 34/-, subject to the general conditions announced by the Board in regard to trade with Canada.

Mr. Thomas further stated that in connection with the issue of licences for the export of Currants to South Africa, the Board had decided that the prices at which the fruit was sold should not be less than the following:—Three Crown, 36/- per cwt. c.i.f. and e. main South African ports, and Two Crown 34/-.

AUSTRALASIAN MARKETS.

Victoria.

Melbourne (23/12/26).

The following were the ruling wholesale quotations at the Western Market:—Apples—Choice eating and good eating, 8/-, 14/-; choice cooking and good cooking, 8/-, 12/-, Apricots—Choice dessert and good dessert, 7/-, 10/-; medium dessert, 5/-, 6/-, Bananas—Queensland, 20/-, 34/- double. Figs, 12/-, 15/- case. Lemons—Victorian, 7/-, 10/-, Oranges—Victorian, 10/-, 16/-; South Australian, 18/-, 20/-, Peaches—Choice, dessert and good dessert, 15/-, 24/-, Cherry Plums, 7/-, 9/-, Pineapples—25/-, 30/- double. Tomatoes, 12/-, 20/-, Cucumbers, 12/-, 14/-.

New South Wales.

Sydney (22/12/26).

Mr. F. Chilton, City Fruit Markets, Haymarket, Sydney, reports:—

Queensland Fruits.—Bananas, 20/- to 40/- per case; Pines, Smoothleaf, 16/- to 30/-; Common, 15/- to 20/-.

New South Wales Fruits.—Bananas, 20/- to 40/- per case; Lemons, 8/- to 20/- per bushel case; Oranges, Valencia, 10/- to 20/-; Apples, green, 8/- to 20/-; Carrington, 6/- to 20/-; Passions, 5/- to 19/- per half case;

Plums, 4/- to 15/-; Peaches, 5/- to 20/-; Apricots, 2/6 to 8/-; Tomatoes, 5/- to 24/-; Cucumbers, 3/- to 5/-; Cherries, 5/- to 12/- per quarter case; Gooseberries, 3/- to 6/-.

Victorian Fruits.—Apples, Yates, 7/- to 20/- per bushel case; Lemons, 10/- to 20/-; Apricots, 7/- to 16/-.

Tasmanian Fruits.—Apples, F.C., 10/- to 16/- per bushel case; C.P.M., 10/- to 20/-; Dem., 14/- to 22/-; S.T.P., 10/- to 15/-; Gooseberries, 8/- to 10/- per half case.

The prices prevailing on this market during the past month have been quite exceptional, and in many instances have established records. Extreme scarcity, due to drought conditions and crop failures have of course been the cause. After the holiday season prices all round are expected to ease considerably.

Western Australia.

Perth (21/12/26).

Apples, Yates, prime dumps, 18/- to 23/-; others, from 14/-; Oranges, dumps, 7/6 to 12/6; flats, 5/- to 9/-; Lemons, prime dumps, 8/6 to 10/6; others, 5/- to 7/6; Apricots, prime flats, 8/6 to 12/6; others, 5/- to 7/-; Peaches, prime, 8/6 to 14/-; others, 5/- to 7/-.

Queensland.

Brisbane (24/12/26).

Lemons, prime, 8/- to 11/-; others, 6/- to 7/- a quarter case; Pineapples, Smoothleaf, prime, 18/- to 20/-; others, 14/- to 17/- a case; 6/- to 10/- a doz.; Roughleaf, 3/- to 12/- a doz.; 10/- to 16/- a case; Passion-fruit, 9/- to 15/-; Peaches, 4/- to 9/- a half hushel case; Oranges, second crop, 4/- to 10/-; Navel, 24/-; Apples, 9/- to 13/- a bushel case.

Tasmania.

Hobart (27/12/26).

Cherries, Blackhearts, 15/- to 18/- per half case; Whitehearts, to 16/3; Gooseberries, to 5/- per half case; Peaches, best lines, 10/- to 11/6 a

half case; medium and ripe lots, 7/6 to 8/6; Strawberries, to 1/- punnet; Raspberries, to 8d. punnet.

South Australia.

Adelaide (18/12/26).

Apples, 13/- to 15/- per case; Apricots, 8/- to 10/-; Cherries, 28/- to 30/-; Lemons, 12/- to 14/- Oranges, 10/- to 12/-; Navel, 17/-; Peaches, 16/- to 20/- Prices are without case.

New Zealand.

Dunedin (16/12/26).

Messrs. Reilly's Central Produce Mart Ltd., report exceptionally heavy business, the market being well supplied with all lines of fruit and vegetables. It was recently estimated that the stone fruit crop will not average 20 per cent. of previous years, and extreme prices must rule.

Sale Prices.—Strawberries, choice, to 2/-; medium, to 1/6; Waimate, 10d. to 1/6½ pottle; Cherries, choice, 1/4½ to 2/3½; small, inferior, 6d., 1/-; Gooseberries, 2d. to 2½d.; Red Currants, 5d., 7½d.; Black Currants, 6d., 7d.; Local Grapes, 4/3; Cherry Plums, 7½d., 9½d.; Walnuts, choice Akaroas, 1/-; Peanuts, choice, 5d.; Apples, Sturmers, choice, 10/6; large, bruised, 6/-, 8/-; Doughertys, 12/6; Winesaps, 19/-; Canadian Delicious, 21/-; Lemons, choice Californians, 300/360's, Festive Brand, 31/6; Missions, 33/-; Oranges, Sydney Valencias, 22/6; Adelaide Valencias, 25/-; American Navels, 41/-.

BRISBANE MARKET.

Demand for Victorian Lemons.

Mr. H. V. Geeves, Fruit Markets, Brisbane, writing on 20/12/26, points out that "for the past twelve months the country has been suffering from the effects of a very severe drought. So dry has been the season that fruit crops are practically a failure. Bananas from the North Coast districts are very light in supply, and the quality is very poor as compared

with fruit in good seasons. The Stanthorpe district fruits are practically a failure, and we are getting no stone fruit on the market at time of writing.

"Heavy rain set in on the 13th December, and has continued until today. As much as 25 inches have fallen in some places on the North Coast, and other districts have benefited greatly. We can safely say now that the dreadful drought has broken, and everything points to a good season for next year.

"Lemons are very scarce here, and we are realising readily 30/- per case for the best Victorian samples. There are no Italians available, and the Victorian supplies are too light for requirements. We strongly advocate Lemon culture in Victoria, and if growers generally can put up an article equal to some which we are receiving from your State at the present time, we have no hesitation in saying that Italian Lemons will no longer be asked for."

FRUITGROWERS' LOSSES.

Cool Stores Payments to be Deferred.

In response to the deputation of the Victorian Fruitgrowers' Cool Stores' Association, the Victorian Cabinet has decided to defer the interest payments in certain cases. Each store must submit to the Treasurer its individual details, and to what extent, if at all, it will be open this season. The Treasurer will then decide the granting of the request that the next three half-yearly payments be deferred.

To overcome the severe losses caused by thrips and other pests, the Government is arranging to provide part-time work for orchardists needing it, also monetary grants for others. Those desiring the monetary grant should apply either through their local shire council or to the Secretary to the Cabinet (Hon. F. Groves, M.L.A.), Treasury Buildings, Melbourne.

FRUIT SHIPMENTS — TO NEW ZEALAND

REILLY'S CENTRAL PRODUCE MART LTD., DUNEDIN

advise Growers of CHOICE FRUITS to ship to Dunedin

REILLY'S anticipate a keen demand for all lines of choice Fruit arriving on this market between the months of July and December.

REILLY'S offer Fruitgrowers their faithful service and will be pleased to advise Fruit Shippers the probable prices available and prospects of making suitable sales.

Cable or write to **Reilly's, Dunedin.** Codes used—BENTLEY'S, MARCONI'S, WESTERN UNION, A B C 5th & 6th Ed.

REILLY'S GUARANTEE FAITHFUL SERVICE TO ALL CONSIGNORS.

Tasmania

Seasonable Work :: Crop Prospects :: News and Notes

WEATHER conditions have much improved, although frequent showers have been experienced in the Southern districts.

The harvesting of the berry crops has commenced, and good yields of Strawberries and Raspberries are reported from the principal districts. Small consignments of Apples from cold store are still being exported to Interstate markets, and except for a few choice "hard" lines of Tasmans and Sturmers, which are being kept back for the New Year's trade, the season will finish at the end of the month.

Overseas Fruit Exports.

It is evident that owing to the unsatisfactory returns of last season, and the greater competition that is expected upon overseas markets from the surplus of the American record crops, that the proportion of fruit exported this season will be considerably below the average.

From the general indications, it seems as though the Tasmanian grower will experience a profitable outlet for the bulk of the crop upon the mainland markets. Advices are already being received from Sydney to retain all colored varieties of good quality, and a number of mainland buyers are seeking to obtain their requirements for the season in Southern orchards.

Apple and Pear Grades.

Although the export season is fast approaching, no intimation has yet been received from the Customs Department as to whether the amendments which have been recommended by the Australian Fruit Council for two successive seasons will be brought into effect.

Certain criticisms have been levelled against the manner in which the overseas trade has been conducted. The amendments are designed to put the grades on a practicable basis, and alter the objectionable sizing methods. The amendments, which have received the unanimous support of all sections of the industry in Australia, will involve a certain amount of preparation to the producer and exporter. The delay in making a decision in regard to this matter is hard to understand, and if left in abeyance until the eleventh hour, will militate against the efficient operation of the regulations during the coming season.

Assistance to Fruitgrowers.

The Bill to assist fruitgrowers who incurred such serious losses on overseas exports during the 1926 season,

has now passed through Parliament, and a Board comprising the Manager of the Agricultural Bank (Mr. S. R. Adams), Messrs. J. P. Piggott, M.H.A., W. H. Calvert, M.L.C., F. Peacock, and A. E. Webb, has been appointed to investigate claims and allocate the amount of loan considered necessary.

The total funds available for this purpose is £50,000, of which the Federal and State Governments have each contributed £25,000. Advances will be made on loan free of interest for a period of five years, to cover the costs of manures, spray material and packing requisites for the coming crop.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osake Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

ORCHARD OPERATIONS.

(By P. H. Thomas, State Fruit Expert.)

January.

JANUARY will be a busy month for fruitgrowers. The harvesting of berry and early stone fruits will be in full swing, and preparations for the export of the Apple and Pear crop occupy the orchardists engaged in this branch of the industry.

Cultivation.—The dry weather experienced will make the efficient cultivation of most orchard areas a necessity to the healthy development of foliage and fruit. The soil should be maintained at a satisfactory tilth, and every opportunity taken to conserve any moisture supplied by stirring the surface as soon as possible after the rains are experienced.

In many orchards, constant ploughing to the trees has been responsible for the formation of soil ridges. This is undesirable, and at this period an effort can be made to level the surface soil throughout the area. Orchard trees that are situated upon such ridges tend to develop a surface rooting habit; moreover, the loss of moisture from the region of the feeding roots is greater than where level culture is practised.

Spraying.—The principal operations will be directed toward the control of the **Codlin Moth**. In badly infected areas it will be necessary to apply at least three arsenate sprays to secure effectual control, the third spray being put on the first week in January. If the preceding November and December sprays have been applied in a thorough manner, the pest should be reduced to a minimum, even in the worst cases of infestation. In orchards where the early sprays have been omitted, it will be necessary to thoroughly examine the trees and gather all fruits that are infested. These should be boiled or burnt immediately after picking.

It is quite unnecessary to mix the spray at a much greater strength than is recommended. From tests conducted by the Fruit Division, the different reputable brands upon the market can be used at a strength of 1 lb. to 30 gallons (powder), and 1 lb. to 16 gallons (paste). In making the applications, it is desirable that an arsenate having a high suspensory test be used.

During the month the Pear Slug (*Selandria cerasi*) will be in active operation. This insect feeds upon the leaves of a number of deciduous fruits, principally attacking Cherries, Pears and Plums. It is easily controlled by applying an arsenate spray at the strengths detailed above.

In certain orchards the root fungus, *Armillaria mellea*, is causing injury to a number of trees. If treated in the initial stages the disease may be controlled. The recommended method is to bare the roots at the base of the trunk, making a saucer-like depression, and thoroughly soak the soil and roots with a mixture of sulphate of iron (1 lb. to 4 gallons of water). This work should be carried out when the soil is in a fairly dry condition.

Budding.—Towards the end of the month "budding" may be commenced of stone fruits, such as Cherries, Plums and Apricots. In order to secure good results the trees should be making vigorous growth, the bark "lifting" freely for the operation. A light dressing of nitrate of soda or sulphate of ammonia applied three or four weeks before the operation will often assist toward this condition, the

crystals being hoed into the soil around the trees to be treated. In obtaining scions it is desirable to choose bearing trees which are known to be vigorous, thrifty and good croppers. Care should be also taken to see that the scions selected are matured, the bark being firm and carrying well developed buds. "Clean cutting" and "tight tying" with raffia are the essentials to success.

TASMANIAN FRUIT PROSPECTS.

The State Fruit Expert (Mr. P. H. Thomas) estimates the Apple crop at 60 per cent. of normal, or 2,100,000 bushels; Pears, 90 per cent., or 250,000 bushels; Plums, 50 per cent., or 40,000 bushels; Apricots, 20 per cent. (25,000 bushels); Cherries, much below the average; berry fruits, prospects extremely favorable.

Ranelagh,

The principal fruits grown here are Apples, Pears, and small fruits.

Of Apples, the main varieties are S.T.P., Cleo., Jonathans, F.C., S.P.M., Crofton, and Democrats (only a small yield, as trees are very young, but a considerable acreage).

The crop prospects are about a 40 per cent. crop, and do not compare very favorably with last year as regards quantity, although the quality should be very good.—Tom A. Frankcomb, "Clifton," Ranelagh. 25/11/26.

Scottsdale,

The season promises to be an exceptionally early one; the winter was very mild. The spring has been very wet and cold; and most varieties of fruit, particularly Apples, have suffered. The severe frost and cold winds have seriously affected the crop.

Some varieties appear to have a good setting of Apples, but it is just a little too early to forecast the crop, and my past experience gives me to believe that the greater portion will drop off during the next few weeks.

Our principal varieties of fruit are Apples, and from experience and present observation the crop will be light, but large Apples; Pears are from poor to light; Apricots appear to be fair; Plums are average, and look well; Cherries are light, but trees look healthy; Raspberries and Gooseberries are good, and of a very fine size and quality, the season is in their favor.

Our local fruitgrowers deserve great credit for the way they are cultivating and spraying their orchards,

and are determined they are not going to be disheartened, although they suffered very severe losses on their last season's crop, through no fault of their own.—P. H. Tucker, Scottsdale, 22/11/26

VICTORIA.

Fruit Crop Report for December.

Deciduous Fruit.

The Superintendent of Horticulture reports, on 24/12/26, that the Apricot crop generally is heavy throughout the State, but the fruit abnormally small. There is little waste from scab, this fungus being successfully controlled.

Other deciduous fruits are patchy, and Rutherglen bug is causing some anxiety, though the damage done so far is not great. Canning Peaches and Pears promise to be fairly well up to average in the Shepparton district.

Owing to the light Apple crop, great care will be needed in controlling codlin moth.

Vines.

Vines are looking remarkably well throughout the State, and crop prospects are decidedly good, notwithstanding thrips and adverse weather. It is believed that the damage done by thrips to vine fruits is insignificant, the dropping of berries being due to climatic conditions or faulty tillage or irrigation.

Citrus.

The Navel crop promised well, but changeable weather has caused a lot of dropping of fruit; the crop is now estimated as light to normal. Valencia and common seed types promise a heavy crop. Prices for citrus fruits are well maintained.

Better Farming Train.

The Better Farming Train which visited Whittlesea, Healesville, Mornington and Red Hill in December, was keenly appreciated. There were thronged attendances. In the fruit-growing localities the horticultural car was the centre of attraction, though keen interest was displayed in all the other exhibits, pigs, sheep, cows, pasture experiments, etc. The women's section received much attention, domestic arts, needlecraft, cookery and mothercraft. Lectures were given by capable Departmental Officers on various phases of culture connected with agriculture; in the fruit section, Mr. J. M. Ward (Horticultural Superintendent), spoke on control of insect pests and fungus

diseases, and Mr. J. Gregory gave a fruit-packing demonstration. Mr. H. W. Davey, Chief Orchard Supervisor, exhibited specimens of pests and diseases attacking fruit trees, and directed attention to the Currant moth, which has now made its appearance in Victoria (details elsewhere in this issue). Mr. Wadeson, Orchard Inspector, also assisted in giving advice to growers.

DIAMOND CREEK SHOW.

The Annual Show of the Diamond Creek Horticultural Society will be held on Saturday, March 12th, 1927.

KYABRAM FRUIT GROWERS' ASSOCIATION.—Meetings are held on the first Saturday in each month at R.S.A. rooms, Kyabram.

F. J. Churches, President.

G. F. Markham, Secretary.

Postal Address—Box 95 Kyabram.

WESTERN AUSTRALIA.

Fruit Crops Good.

The Superintendent of Horticulture (Mr. G. W. Wickens), writing on December 22, advises that the Apple crop is uniformly heavy throughout the State. All the main commercial varieties—Jonathan, Dunns, Cleopatra, Granny Smith, Rome Beauty, Yates, Rokewood, Statesman, and Dougherty—are carrying heavy crops, and the yield is estimated at 50 per cent. over last year, and 30 per cent. above the average production.

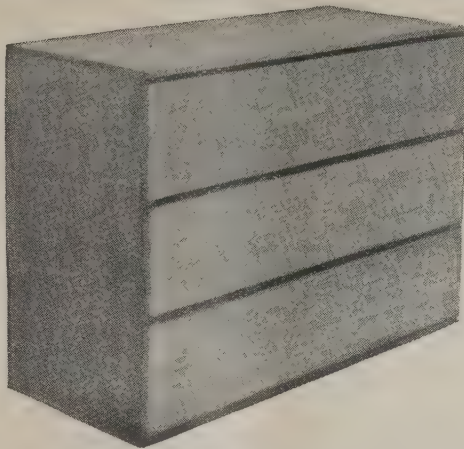
The Pear crop is medium only, and is estimated at 30 per cent. below average. Stone fruits of all kinds and varieties are carrying good crops. Grapes are good, but anthracnose is much more prevalent than last year. Citrus fruits are promising for a good crop, but as shedding has not yet finished, it is too early to forecast results.

Another estimate places the Apple crop at 700,000 bushels.

Mount Barker.

Mr. A. T. Booth, writing on December 15, said:—In this district the stone fruit crop is good, Pears on the light side, particularly Josephines and Winter Nelis, but we shall have a good average crop of Apples, probably heavier than last year.

There is an Orange tree in Terre Bonna parish in Louisiana, U.S.A., which bears a crop of 10,000 Oranges every season.



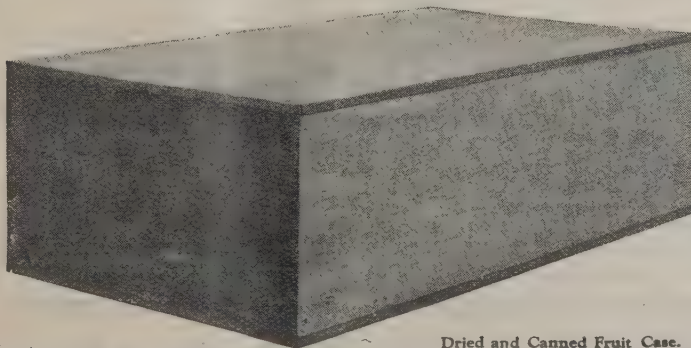
Australian Apple and Citrus Dump Bushel Case.

SOME ADVANTAGES IN FAVOR OF IMPORTED CASES

- (1) Full drawback of duty allowed on all cases exported.
- (2) 1/3rd less freight than on Hardwood cases.
- (3) 25% rebate on rail freight for full trucks.
- (4) All timber cut to exact sizes making it an easy matter to assemble a symmetrical case.
- (5) Every piece of timber fit and ready for use, thereby eliminating waste.
- (6) Can be supplied in shooks or made up and branded.

Particulars from the Largest Importers

Overseas & Interstate Trading Co. Ltd.



Dried and Canned Fruit Case.

SOFTWOOD CASES

(IMPORTED)

Cheaper than hardwood if exported.

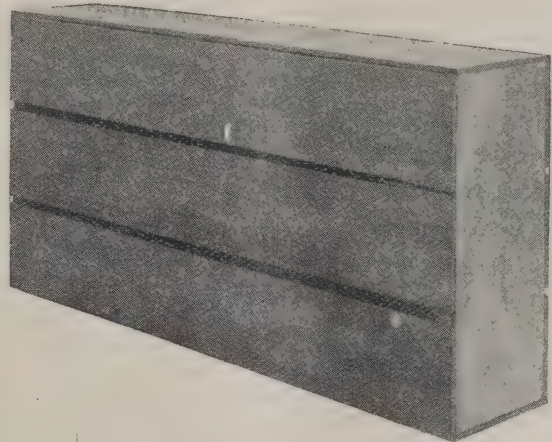
Cut to Australian Standard Sizes

DUMP BUSHEL with one piece top and three equal piece side

UPRIGHT BUSHEL with one piece top and three equal piece side

DRIED FRUIT CASE with one piece side and two equal pieces tops and bottoms

CANNED FRUIT with one piece side and two piece tops and bottoms



Upright Bushel Case with Centre Partition.

First Floor,
Temple Court,
Melbourne

Phone Central 9110

Also
King William Street,
ADELAIDE

Australia's Fruit Production.

IN TWENTY YEARS (from 1906 to 1925), Australia has produced £118,000,000 worth of fruit. In 1924-25 the Commonwealth produced 238,194 tons of Grapes, of a value of

£3,592,542, all other fruit production in that year being valued at £7,417,336. These figures, and those following, are from official statistics, published in "Australia To-day":—

Area of Orchard (excluding Vineyards), 1920-21 to 1924-25.					
State.	1920-21.	1921-22.	1922-23.	1923-24.	1924-25.
	Acres.	Acres.	Acres.	Acres.	Acres.
Victoria	87,768	89,491	86,014	85,570	85,358
New South Wales	75,904	75,746	73,134	72,372	73,972
Tasmania	37,013	36,565	34,689	34,076	33,992
South Australia	31,364	32,295	33,003	33,472	33,319
Queensland	26,927	28,035	29,431	29,568	31,738
Western Australia	19,570	19,012	19,405	18,776	18,520
Federal Territory	5	5	11	11	5
Commonwealth	278,551	281,149	275,687	273,845	276,904

Value of Orchard Production.—1921-22, £6,458,089; 1922-23, £6,666,842; 1923-24, £6,282,552; and in 1924-25, £7,417,336.

Total Commonwealth Exports of Fresh Fruits (Australian origin).—1922-23, 108,359,700 lbs., valued at £1,039,877; 1923-24, 78,922,300 lbs., valued at £870,177; 1924-25, 101,317,600 lbs., valued at £1,089,072; 1925-26, 150,373,900 lbs., valued at £1,553,730.

Total Commonwealth Exports of Dried Fruits (Australian origin).—1922-23, 35,976,855 lbs., valued at

£1,230,433; 1923-24, 43,248,911 lbs., valued at £1,237,906; 1924-25, 78,283,000 lbs., valued at £1,930,420; 1925-26, 55,036,900 lbs., valued at £1,457,652.

Australian Wine and Grape Production, 1924-25.

South Australia—50,280 acres, 10,502,381 gallons of wine; value, £960,632. **New South Wales**—14,747 acres, 1,171,264 gallons wine; value, £243,540.

Victoria—42,467 acres, 1,368,765 gallons wine; value, £169,385. **Western Australia**—5,331 acres, 223,761 gallons wine; value,

£22,376. **Queensland**—1,579 acres, 33,119 gallons wine; value, £15,448. **Commonwealth**—114,394 acres, 13,299,290 gallons wine; value, £1,411,381; 10,448 tons table Grapes, value, £316,347; 766,540 cwt. Currants, Raisins and Sultanias, value, £1,864,814. **Total value, £3,592,542.**

Australia's Sugar Cane Industry, 1924-25.

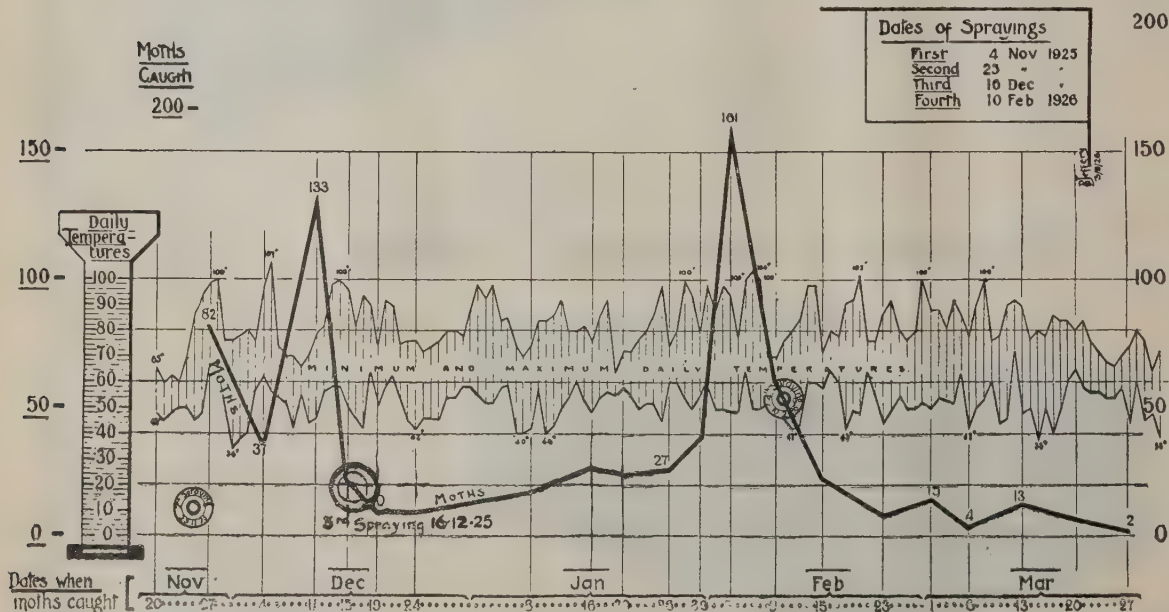
Queensland—Area under crop, 253,519 acres; yield, 3,171,341 tons; value, £7,207,409. **New South Wales**—Area under crop, 19,993 acres; yield, 228,978 tons; value, £475,130. **Commonwealth**—Area under crop, 273,512 acres; yield, 3,400,319 tons; value, £7,682,539.

1,215 FORDS.

Sold in Ten Days.

Immediately following the recent price reduction on Ford cars and trucks, 1,215 Ford vehicles were sold throughout Australia in ten days—from November 20 to 30.

The Ford Motor Company of Australia Pty. Ltd. advises from its head office at Geelong, Victoria, that this figure undoubtedly constitutes an Australian record in the sales of cars and trucks of any one make over a similar period. All Ford branches throughout Australia are being taxed to their utmost capacity to cope with the unprecedented demand.



Control of Codlin Moth.—Graph showing spraying dates and maximum emergence of moths, referred to by Mr. R. Fowler, Manager Blackwood Experimental Orchard (S.A.), in his article published in our December issue. (See page 572.)

An Interesting Manurial Experiment on Apples

A most instructive experiment has been carried out for the past six years by Mr. C. W. Grant in his orchard at Baxter, Victoria, showing in a most striking manner what a big increase in yield can be obtained by the use of fertilisers, and what a difference this increase means to the profits gained.

For the test two plots of 12 trees each were carefully selected, so as to be as uniform as possible, both as regards the size of the trees and the situation of the plots. The trees (Jonathan) were 13 years old at the commencement of the test, and were planted at 18 x 21 feet apart, which is equal to 115 trees per acre.

The object of the trial was to find out whether Nitrate of Soda would be a profitable fertiliser to use under local conditions, and the two plots were given identical treatment each year, excepting for the use of this quick acting nitrogenous fertiliser.

For the first three years both plots were given 4 lbs. Basic Superphosphate per tree, which was applied during the winter. In the fourth year this quantity was increased to 4½ lbs. per tree and in the fifth and sixth years, each tree on both plots was given 4 lbs. of ordinary Superphosphate, and also 1 lb. Sulphate of Potash. Plot 1 was not given any further manurial treatment, but 2½ lbs. Nitrate of Soda per tree was applied on Plot 2, 1½ lbs. being applied just as the buds were beginning to swell, and 1 lb. just after the fruit had set. Careful records were kept of the fruit gathered from

each plot, and from the figures thus obtained, the equivalent yields per acre were calculated, and are tabulated below.

		Yields, Cases per Acre.	
		Plot 1.	Plot 2.
		Phosphatic	Phosphatic
		Manure, without N/Soda.	Manure, with 2½ lb. N/Soda. Increase from N/Soda.
			per tree.
1920-21	.. 192	.. 240	.. 48
1921-22	.. 326	.. 402½	.. 76½
1922-23	.. 441	.. 499	.. 58
1923-24	.. 287½	.. 422	.. 134½
1924-25	.. 326	.. 527	.. 201
1925-26	.. 326	.. 556	.. 230
Totals	.. 1,898½	2,646½	748
Average for			
6 Years.	.. 316	.. 441	.. 125

These figures are well worth careful study; it should be noted that the average increase from the use of the Nitrate of Soda amounts to 125 cases per acre, which, if valued at 6/- each, would be worth £37/10/-.

The quantity of nitrate of soda used was approximately 2½ cwt. per acre, the cost of which would be under £2/10/-. The cost of applying the nitrate of soda would only amount to a few shillings per acre, so the net profit from the use of this fertiliser would be over £34 per acre. This, it should be remembered, is the average figure for six years.

Another way of regarding this average increase of 125 cases per acre, is that it is equivalent to an improvement of almost 40 per cent.

in the yield from the plot without nitrate. Looking at the results from each year, the increases obtained from the use of nitrate of soda show a most remarkable progression, which is almost continuous, the increase in the first year being 48 cases per acre, and in the last year as much as 230 cases per acre.

In this last season the Apples actually netted 7/6 per case, so that the increase of 230 cases was worth £86/5/-.

Results such as obtained from this test should certainly cause every orchardist to consider whether he is manuring his trees in the most advantageous manner, and should convince him of the value of spending a considerable amount of time and trouble in carrying out some simple trials to determine for himself what benefits he can obtain from the use of fertilisers.

ORIGIN OF THE CHERRY.

The address made to the British Association by Mr. C. D. Darlington at the meeting at Oxford "On the Cytology of the Cherries" is not without interest to those fruitgrowers who are interested in the origin of our cultivated fruits. Botanists enumerate over 100 wild Cherries, of which only about five are cultivated for their fruits, and but two of these have given pomological varieties of value in the fruit industry of the world. These are *Prunus cerasus* and *Prunus avium*.

Trees of the species *Prunus cerasus* are found truly wild in South-Western Asia and South-Eastern Europe,

DENNYS, LASCELLES LTD.

Temple Court, 422 Collins St., Melbourne

Head Office and Wool Stores at Geelong.

*Exporters of Fresh and Dried Fruit to England and the Continent
also Citrus Fruit to New Zealand*

Personal Supervision of all Consignments at Port of Shipment. Prompt Returns.

AGENTS FOR AMERICAN FRUIT WRAPPING PAPER

CARO AND CARONITE WRAPPERS

have proved to be preventives against Apple Scald and other diseases which develop in Cool Store or Refrigerator on both Citrus and other fruits.

We also supply Sulphite Paper, Woodwool, Cases (Hardwood or Canadian), Nails, etc., in large or small quantities.

and the former district is regarded as the real home of this species, which, in course of time has given rise to all the sour Cherries in cultivation. Of these perhaps the small Morello is the best known. The sweet Cherries, on the other hand, have been derived by development from the wild forms of *Prunus avium*. Trees of this are to be found growing truly wild in most temperate parts of the world, though there are grounds for believing that it also originated from Asia Minor. Wild forms are still found in this country, where these are known by such names as Maz-zard, Bird Cherries, Crabs, and Gean Cherries. In the course of time these sweet Cherries have undergone very considerable development, so that groups have arisen which have the distinguishing feature of bearing Cherries all of which have soft, tender, juicy flesh—these are the “Heart Cherries” of common talk. Some of these are dark, almost black, like the Black Eagle, others like the Elton Heart are of a lighter color. Other groups have given rise to Cherries in which the flesh is firm. These are the Biggareaus, so well known in most countries.—“The Times.”

No person will have occasion to complain of the want of time, who never loses any.

TO CONSERVE SOIL MOISTURE.

Summer Cultivation in the Orchard.

During the early part of the summer it is most important to conserve the soil moisture for the growth of the fruit and trees. Consequently weed growth must be kept down and the surface prevented from crusting and a dry soil mulch maintained.

What implement should be used for the purpose depends on the state of the soil. In some cases the tine cultivator is sufficient, but if frequent showers have held up previous cultivation and allowed weeds to get beyond the cultivator then a light ploughing may be necessary. The one-way disc cultivators are useful implements for such work, but there is one drawback to disc implements—they are liable to leave the fine soil on the surface and the clods under-

neath. The fine soil not only cakes again very easily, but also prevents further rains from penetrating easily. A good mulch is one that allows rains to penetrate, but at the same time checks evaporation from below.

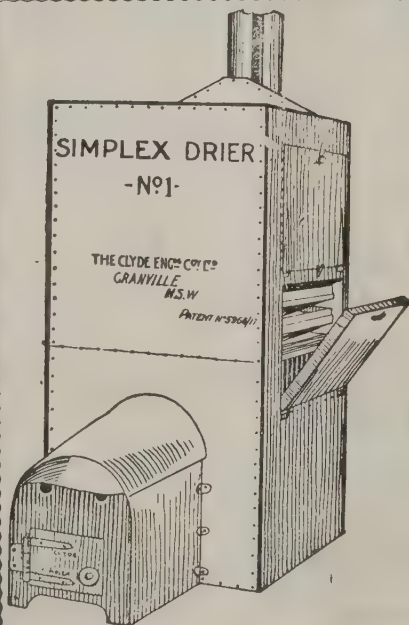
If for any reason the soil has become set too hard for tine or one-way disc cultivator then a mould-board plough must be used. The mould-board plough leaves the ground in good condition for receiving moisture, and also forms a more lasting mulch than the tine cultivator. In some districts it is almost imperative to give a light summer ploughing to keep the soil in good condition for receiving and conserving moisture.

That part of the ground close to the butts of the trees which cannot be reached by horse or tractor implements must be kept clear of weeds and loosened by forked hoes or other hand tools.

Special attention should be paid to trees planted during the past planting season, as their roots are not properly established and can only draw their moisture from a limited area. During a prolonged dry spell these young trees may require watering. Where they cannot be irrigated in a regular manner a wide furrow should be opened up close in around each



GIBBS, BRIGHT & CO.—See Page VI



The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
... OF ...
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

tree, into which should be poured 8 to 10 gallons of water. When this has soaked in the furrow should be filled again with dry soil or some other mulch.—N.S.W. Department of Agriculture.

FRUIT FOR LIVERPOOL.

IT has long been felt that the policy of sending all produce to London, thence to be distributed by rail to the more distant parts of Great Britain, is economically unsound. In this connection, very great interest was aroused by the recent visit to the principal ports of the United Kingdom of the Minister for Agriculture for New South Wales (Capt. W. F. Dunn), the Director of the Agricultural Bureau (Mr. G. Valder), and Mr. A. R. Hassan (Australian Meat Council), to investigate

problems of marketing and distribution on behalf of the primary producers of Australia.

To send the bulk of one's produce to London, and overweight the market, and then send much of it an expensive railway journey to the north, where the greater proportion of England's industrial population is concentrated, has not seemed particularly good business. It was felt that if this visit had any significance, it meant that Australia was at last beginning to doubt the wisdom of her extraordinary dependence on London as a market for her produce, and that she was seriously considering a policy of decentralisation in which the other ports of the country would be used to a greater extent; and Liverpool, as well as Manchester, at the end of the Ship Canal, is all attention.

With its great system of docks, and

the facilities perfected in dealing with the bulk of the export trade of the United Kingdom and a greater amount of the imports than any other port except London, Liverpool can offer to Australians direct touch with a great, rich, industrial population within a radius of at least 100 miles. If Australia is really bent on breaking the "ship to London" habit, and on marketing its produce to the best advantage, a greater proportion of its exports must inevitably be sent to Liverpool.

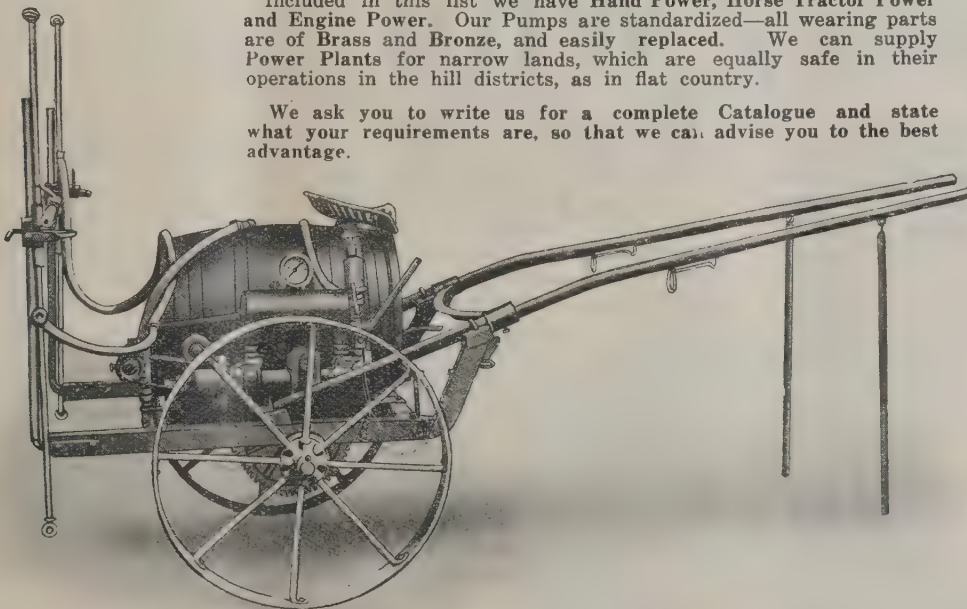
Queensland Restaurant Manager (to orchestra conductor): "I wish you'd display a little more tact in choosing the music. We've got the Committee of Direction of Fruit Marketing here this evening, and you've just played, 'Yes, We Have No Bananas!'"

METTERS NUFREND SPRAYING OUTFITS

We are taking this opportunity of introducing ourselves as makers of SPRAYING OUTFITS as an adjunct to our many other lines. WE HAVE A CATALOGUE OF SPRAY PLANTS which should fill any requirements in the VINEYARD or ORCHARD, also for the BLOWFLY PEST.

Included in this list we have Hand Power, Horse Tractor Power and Engine Power. Our Pumps are standardized—all wearing parts are of Brass and Bronze, and easily replaced. We can supply Power Plants for narrow lands, which are equally safe in their operations in the hill districts, as in flat country.

We ask you to write us for a complete Catalogue and state what your requirements are, so that we can advise you to the best advantage.



Catalogues posted free to any Address.

METTER LIMITED, 142 Rundle St., ADELAIDE, S.A.

Victorian and Tasmanian Agents—The FARM & PASTORAL SUPPLIES Pty. Ltd., 500-2 Bourke St., Melbourne.

SUBSCRIBERS' PAYMENTS RECEIVED.

We acknowledge with thanks having received, at Head Office, the following renewal subscriptions from our readers up to November 20, 1926. The date in brackets indicates to when the subscription is paid. The list does not include payments to our branches in the other States, nor deliveries through our wholesale distributors.

If any reader wishes to have a receipt we will forward same on application.

H. M. Alexander (June, '26), Airedale Orchards (June, '27), Aust. Press Association (June, '27), A. J. Alden (June, '29), Robt. Aitken (June, '27), Wm. Anker (June, '27), Aust. Fruit and Produce Co. (June, '27), Geo. Arbuckle (June, '27), A. J. Arnot (June, '27), W. S. Arnold (June, '27), J. H. Atkins (June, '27), F. Adamson (June, '27), H. Albers (June, '27), F. Attenborough (June, '27), F. J. Andrews, Melb. (June, '27), F. J. Andrews, Tresco (June, '27), E. E. Bryant (June, '27), W. R. Beresford (Sept., '27), Brown Bros. (June, '27), A. W. Brain (June, '27), W. F. Boe (June, '29), N. M. Brooke (June, '27), E. C. Borley (June, '27), W. R. A. Bastow (June, '27), E. N. Barton (June, '27), S. Barnes, M.L.A. (Oct., '27), J. E. Brenton (June, '28), Burns, Philp & Co. (June, '27), W. Le Gay Brereton (June, '27), C. Boeglan (Oct., '27), W. B. Beal (June, '30), M. Broome (June, '27), E. J. Casey (June, '26), W. F. Cooper (June, '27), T. Chapman (June, '27), J. Charlton (June, '26), T. M. Cuttle (June, '27), W. P. Coleman (June, '27),

T. Cox (June, '28), G. A. Campbell (June, '27), W. H. Carne (June, '27), T. J. Cooper (June, '27), W. Cawood (June, '27), R. Campbell (Sept., '27), E. C. Crockford (June, '27), A. J. Campbell (June, '27), Geo. E. Costin (June, '27), G. C. Cole & Sons (June, '27), W. A. Cumming (June, '27), M. E. Crawford (June, '27), Craig Bros. (June, '27), Cutler Bros. (June, '29), Cawthron Institute (Nov., '27), W. Clegg (Oct., '28), Dennys, Lascelles Ltd. (June, '27), C. T. Dodswell (June, '27), T. Dobson & Sons (June, '27), V. J. Doyle (June, '27), H. P. Davenport (June, '27), R. F. A. Downes (Nov., '26), C. DeBelle (June, '27), Deppler Bros. (June, '27), H. Denham (June, '27), Mrs. M. Ellis (Sept., '27), G. E. Emerson (Sept., '27), W. C. Elder (June, '27), Errey Bros. (June, '27), R. B. Fulton & Son (June, '27), F. Finger (June, '27), D. Popp (June, '27), R. Field (June, '27), G. Fleming (June, '27), M. J. Fishbourne (June, '26), W. G. Foster (June, '27), J. Fithie (Sept., '26), F. P. Floyd (June, '27), G. A. Gilmour (June, '27), H. F. Greenwood (June, '27), D. D. Grant (June, '27), A. Goodhew (June, '26), W. M. Gibson (June, '27), G. Grant (June, '27), H. Green (June, '27), George Bros. (June, '27), A. W. Gibson (June, '27), J. Gregory (Oct., '27), S. Gorr (June, '27), D. Grant (June, '27), R. Hinds (June, '27), Geo. Higgins (June, '27), J. H. Houfe (June, '27), W. P. Hutchinson (June, '27), Hicks Bros. (June, '27), Campbell Hogg (June, '27), J. E. Holland (June, '27), H. Henderson (June, '27), H. W. Hine (June, '27), E. W. Harris (June, '27), M. Hull (June, '27), A. H. Headland (June, '27), E. H. Ilett (June, '27),

C. Ironmonger & Sons (Sept., '27), E. Jeanes (June, '27), Major H. Jones (June, '27), T. C. James (June, '29), P. Jacob (June, '27), S. B. Jameson (June, '27), Robt. Kilpatrick (August, '27), B. Krone (June, '27), L. Knappott (June, '27), Kenmore Mental Hospital (June, '27), Robt. Low (June, '27), T. A. Lornie (June, '27), T. H. Latch (June, '27), Robt. M. Leisk (June, '27), J. Lang (June, '27), Jas. Lang (June, '27), E. C. Levitt (Oct., '27), A. B. Lum (June, '26), Mat. Lewis (Oct., '27), W. J. Matthews (June, '28), P. V. Mauger (Aug., '27), E. Mann and Son (Dec., '26), Geo. E. Miers (June, '27), E. E. Moit (June, '27), R. Mair (Dec., '28), H. Malone (June, '29), W. E. Missen (June, '27), Madden Bros. (June, '27), F. B. MacKenzie (June, '27), P. Mathven and Son (June, '28), W. E. Muspratt (June, '28), W. McIver (June, '27), W. McRobert (June, '27), O. Nobeltus (June, '27), Wm. Napier (June, '27), A. G. Nightingale (June, '26), J. C. Norman (Dec., '27), N.S.W. Central Citrus Association (June, '27), O'Hanlon Bros., Dec., '26), D. Ockenden (June, '27), F. Pike (Sept., '27), W. R. Pounsett (June, '27), Pryde Bros. (June, '27), W. Powell (June, '27), R. W. Peacock (June, '27), Quantong Fruitgrowers' Assoc. (June, '27), H. Randall (June, '27), R. Richmond (June, '27), W. Rehu (June, '27), F. W. Roper (June, '27), C. Renouf (June, '28), Don du Rieu (June, '27), L. M. Robinson (June, '27), F. W. Rieschick (June, '27), C. R. Roper (June, '27), C. F. Richmond (Aug., '27), S. Redgrove (June, '27), Rowse and Son (Sept., '27), J. B. Raymond (June, '27), S. Stott (Dec., '28), D. G. Stark (June, '27), W. E. Sargood (June, '27), D. Simson, Sth. Yarra (June, '27), D. Simson, Ardmoma (June, '27), A. Simon (June, '27), T. J. Stokes (June, '27), A. Smith (Aug., '27), A. Smart (Nov., '26), S. S. Strutt (June, '27), F. Thomas (June, '27), A. W. Thiel (June, '27), K. H. Todd (June, '27), A. J. Tilley (June, '27), John Tully (June, '27), Tas. Hort. & Frwgs. Assoc. (June, '27), W. C. Thomas and Son, Melb. (June, '27), T. W. Taylor (Nov., '27), T. J. Thompson (June, '27), Stan. Wythes (June, '28), T. C. Whiteside (June, '27), W. D. Wilson (June, '27), Weddell and Co. (June, '27).



Why be satisfied with dwarfs and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated
Louisville, Ky., U. S. A.

Kills
Aphis

"Black Leaf 40"

40% Nicotine

GOOD APPLE MARKET IN HAMBURG.

According to the American Consul at Hamburg, the prospects for the sale of United States Apples during the latter half of 1926, and the first half of 1927, are very bright. Cool wet weather, which prevailed almost the entire summer throughout most of Germany, retarded the fruit trees, also the fruit has been injured by insects and disease, with the result that the German Apple crop is considered one of the poorest in years. Practically all of the German imported Apple trade is handled through Hamburg, which is also the distributing centre for Austria, Poland, the Baltic States, and the Scandinavian countries.

- LEMONS -

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vic.

SWEDEN AND DENMARK BUY AUSTRALIAN APPLES.

According to the American Commercial Attache, at Stockholm, Australian Apples usually reach Sweden during June and July. The varieties most in demand are Cleopatra, Jonathan and Tasma. During 1925, Sweden imported 192 metric tons of Australian Apples, and it is estimated that about the same amount was imported during the past season.

Prices paid by Swedish Apple importers for Australian Apples ran around 8/- per box f.o.b., Sydney. Best grades of imported Apples retail in Stockholm at 1/8 to 2/3 per kilogram (or 2.2 lbs.).

Speaking of Denmark, the American Commercial Attache at Copenhagen, states that Danish importers estimate that approximately 40,000 cases of Australian Apples entered Denmark during the past season, an increase of around 5,000 cases over 1925 imports. The quality of Australian Apples at the beginning of the season was excellent, prices averaging from 12 to 16 crowns a case. As the season wore on, and the quality of the Apples declined, prices in Denmark dropped to an average of 7 to 10 crowns a case. The season opened around the middle of April and closed near the middle of July. (At present exchange rates the crown is equivalent to approximately 1/1.)

SOUTH AFRICAN AGRICULTURAL DEMONSTRATION TRAIN.

It is interesting to note that an established institution of the South African Department of Agriculture is the Demonstration Train, which is apparently very similar in aims and scope to the Victorian Better Farming Train.

Its recently completed ninth tour through the closely settled northern portion of the Orange Free State, was one of the most successful, over 10,000 persons visiting the train, or an average of about 540 at each of the 19 stops. Everywhere the train was heartily welcomed by both farmers and townspeople, and the big daily programme of eight to twelve lectures and demonstrations was enthusiastically welcomed. It is pointed out that the train more than pays for itself by the increased returns from better farming methods.

A MISPLACED LETTER.

Diner: "Waiter, there's a button in my soup."

Waiter (ex-printer): "Typographical error, sir; it should be 'mutton.'"

A DESTRUCTIVE BEETLE.

(*Otiorrhynchus cribricollis*.)

Mr. Geo. Quinn, Chief Horticultural Instructor, South Australia, writes:—A very troublesome pest which we have here is a curculio beetle (*Otiorrhynchus cribricollis*), a small, half-inch long, reddish brown, plum-colored rascal which is almost omnivorous in its feeding habits. It is wingless and nocturnal in habit, and is very injurious to young vines, fruit trees, and Roses particularly. It hides in the loose surface soil or under clods during the day time. The injury done consists chiefly in gnawing an irregular saw tooth-like margin out of the leaves and eating the bark from young twigs.

The remedies consist of woolly or sticky bands or tin spouts in which a little oil is placed, being fixed around the trunks of the trees. As a spray, we have found arsenate of lead very strong—1 lb. powder in 10 gallons of water—very effective. If very much weaker it is not effective. Some years ago, I issued a bulletin on this pest, but think it is out of print now—though the pest is still going strong.

BRITAIN'S EXPENDITURE ON RESEARCH.

Something like £400,000 is annually spent by the State on the agricultural and horticultural research work carried out at the 30 research institutions of England, Wales, Scotland, and Northern Ireland, says the "Nurseryman and Seedsman."

There are well over 100 trained scientific workers (nearly all full time) engaged on the various branches of agricultural science, and the value of the work done is incalculable.

RUTHERGLEN BUG.

In addition to the other pests which have already seriously depleted the fruit crops, the Rutherglen Bug (*Nysius vinitor*) has made its appearance in considerable numbers in the Goulburn Valley, on the M.I.A., and elsewhere.

Officers of the Victorian Department of Agriculture and the Defence Department conducted various experiments at Ardmona with smoke bombs, which, however, proved disappointing. Research work is being continued with a view to finding more satisfactory methods of control.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1885

★
Special
Catalogues
showing
prices
issued
after
each sale



Tel.-Addr.
„Timmkorn
Hamburg“

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

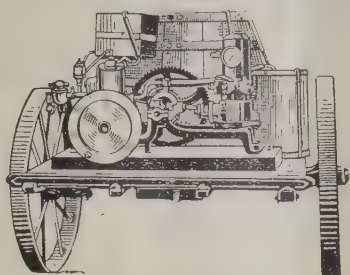
Vic. Rep. Consignments solicited * Advances if desired

BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Effective Spraying means Better Crops and Bigger Profits

You can have the same results as thousands of other growers by using

The BAVE-U PIONEER AUSTRALIAN POWER SPRAYER



Made in Single and Double Plunges
3 and 4 horse power

The POWER SPRAYER that has held its own against all comers for the past 15 years

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles.

Declared by a number of users to be worth its weight in gold.

Write for Catalogue to the Makers:—

RUSSELL & CO.

ENGINEERS

Box Hill, Melbourne, Victoria

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett Street, Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney



Use the right Spray at the right time
to obtain the best results

THE "YARRA" BRAND

The cheapest, most effective and economical fruit sprays
on the market

Our Mr. Jaques, being the Pioneer in Australia in the manufacture of Lime-Sulphur, has devoted his time to perfecting best methods to produce efficient sprays of all sorts.

ARSENATE OF LEAD PASTE—Tins in cases, 2/60lb.	8d. per lb.
ARSENATE OF LEAD POWDER—Tins in cases, 2/36lb.	1/8 per lb.
LIME-SULPHUR—Approx. 40/42 gallon drums or casks	1/3 per gal.
RED SPRAYING OIL—40-42 gallon drums or cask	3/- per gal.
SPECIAL COPPER-SODA MIXTURE—2/50lb. tins in case	8d. per lb.
BENZOLE EMULSION—40lb. tins	8d. per lb.
SPRAY SPREADER—28 lb. tins	9d. per lb.

Above Prices are free on rail or boat, Melbourne, but for all Spray Material taken delivery of at our works, we will allow 5% discount.

Full line of Chemicals, Lubricating Oils, Greases, Paints and Brushes, etc., Prices and Particulars on application.

PARSONS & JAQUES

Manufacturing Chemists

6 PATTERSON STREET, Abbotsford, Vic.
155 YARRA STREET,

PEDIGREE FRUIT TREES

CITRUS

APPLES, APRICOTS, PRUNES,
PEARS, PLUMS, PEACHES, etc.

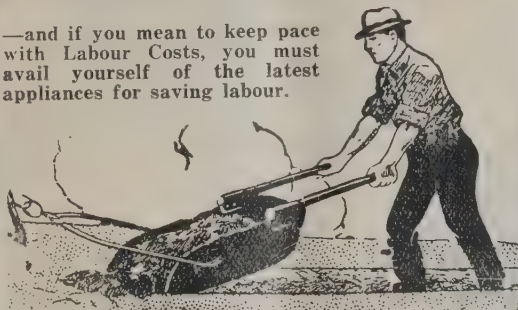
QUALITY PRIME

Correspondence Invited
Orders Being Booked
Send for Our Catalogue
The Most Up-to-date
in Australia

F. Ferguson & Son,
Australian Nurseries,
Hurstville, N.S.W.

Modern Methods Demand Modern Tools

—and if you mean to keep pace with Labour Costs, you must avail yourself of the latest appliances for saving labour.



Solid Steel Earth Scoops

Our Earth Scoops are Pressed COLD from one Piece of Steel, and thus are especially strong at the corners, the place where the average Scoop is weakest, and are fitted with two stout wooden handles.

With a good Scoop a man can do 10 times the amount of work in a day that he would do with a shovel.

PRICES:

Capacity 3 cub. ft. 5 cub. ft. 7 cub. ft. 10 cub. ft.
65/- 67/6 70/- £6

The Seymour Earth Auger Will Save You Pounds

The "SEYMOUR" Earth Auger is one of the greatest labour - saving devices ever put on the market. With it you can sink a post-Hole EIGHT TIMES FASTER than with a spade, and much easier work, too! Consider the great saving of time and labour that this means! Besides another great feature, using a "SEYMOUR" means that there is very little "ramming" to be done round the Post, as it cuts a clean round hole, the same diameter all the way down.



PRICES: (inches diameter).

3in. 4in. 5in. 6in. 7in. 8in. 9in. 10in.
9/6 9/6 9/6 9/6 10/3 11/3 12/3 13/6 each

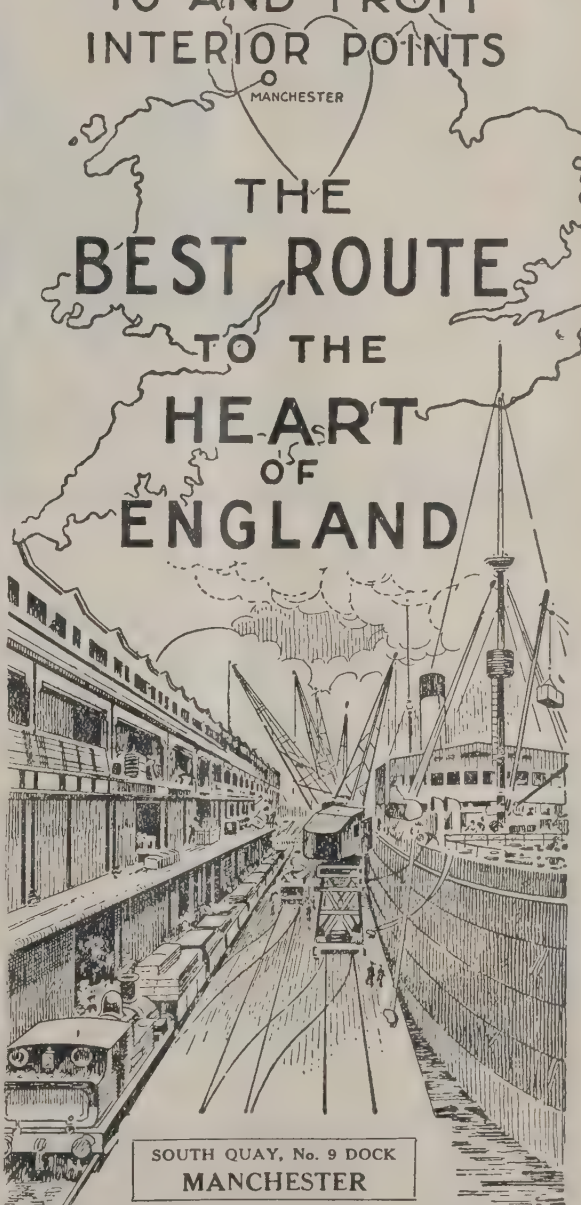
WE HAVE LARGE STOCKS OF PUMPS

We have complete stocks of all types of SPRAY PUMPS, SPRAYING MATERIALS, HAND AND POWER PUMPS, RAMS, PIPING, FITTINGS, &c., and have issued a special Pump Catalogue illustrating and describing all the types Stocked, which will be sent Post Free on Request.

McPherson's
Proprietary Limited

582-592
Collins St. Melbourne

SHIP VIA MANCHESTER TO AND FROM INTERIOR POINTS



SOUTH QUAY, No. 9 DOCK
MANCHESTER

REDUCE TRANSPORT COSTS BY DIRECT SHIPMENT
TO ONE OF THE WORLD'S GREATEST MARKETS

Representative in Australia and New Zealand:

Captain W. J. WADE, 8 BRIDGE STREET, SYDNEY.



Fordson Cuts Production Costs

Every farmer knows the value of work done on time. Urgent work is often delayed by unfavourable weather. This proves costly when crops are planted late in a poorly prepared seed bed.

With a Fordson, you can get your ploughing done, and your crop planted on time—every moment of favourable weather counts, and a greater amount of work is accomplished by its speed and ability to work tirelessly and unceasingly. The result is a good seed bed made on time. Fordson farming is more profitable because you can dispose of six to eight horses, and keep productive live stock instead.

Mr. A. W. Major, of Iraak, via Carwarp, Victoria, sends us the following report of Fordson operations, and states that the cost of repairs for two years did not exceed £5—convincing proof of Fordson economy.

Ploughing: 5 furrow plough, 10 acres per day; consumption, 1½ gallons kerosene per acre.
Drilling: 33 tyne 16 row 9½ ft. combine drill and cultivator, 22 acres per day; fuel consumption, 3-5ths gallon per acre.

Pumping: 6 in. centrifugal pump; fuel consumption, ½ gallon per hour.

Chaffcutting: 9½ in. mouth chaffcutter, consumption, ½ gallon per ton. Power kerosene was used throughout.

Ask your nearest Ford Dealer for a demonstration of Ford products on your own property.

Ford

ONE TON TRUCK

Complete with Standard
Body, F.O.B. Ford Works
in this State.

£160

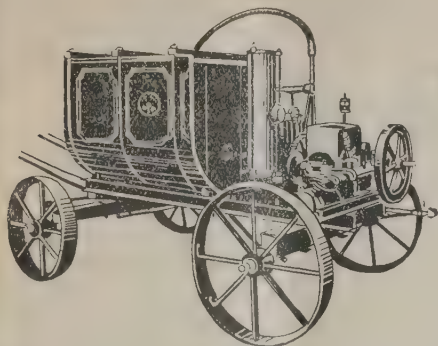
Fordson

THE UNIVERSAL TRACTOR

Complete with Fenders
and Pulley. F.O.B. Ford
Works in this State

£180

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.
BRANCHES IN ALL STATES



Annual Loss of Deciduous Fruits Reaches 40%.

Insects and disease still take too great a toll of our orchards. Authorities admit an annual loss of 40% of Deciduous Fruits—surely a serious indictment of our methods.

What is Wrong?

Simply this: Most of our spraying is too haphazard, a venture at hit or miss.

Good Spraying demands:—

1. An efficient man behind the rod.
2. A good Spray Pump.
3. The best of materials.
4. An accurate knowledge of the when and how of Spraying.

A. H. McDONALD & CO. PTY. LTD.

PROVIDE ALL EXCEPT THE MAN BEHIND THE ROD

There is available to you:—The Finest Sprayer—The Wonderful 604.

The Best of Spray Materials for all classes of Spraying, and above all exact information regarding Pest and Disease, and the methods of control.

You require best results. Get them.

Write us for advice and information.

Watch this space for our monthly Spray Talk.

A.H.McDONALD & Co

570-4 Bridge Rd Richmond Vic. PTY LTD

(W.McF.)

To Citrus Growers

Citrus buyers in Sydney, Melbourne, Brisbane, and New Zealand are declining to handle fruit showing the markings of Scale, whether washed or unwashed, and growers will find it very difficult to dispose of any fruit except with good, clean, untarnished skins.

Thus, it is a matter of prime economic importance to suppress the parasites which make such inroads in growers' returns.

CYANOGEN Fumigation

is the one economical and efficient remedy for the Scale menace. It kills every breathing insect in the orchard. It gives the trees a chance to thrive, to bear beautiful clean fruit, and an abundance of it. It eliminates the necessity for repeated sprayings. In a nutshell, it

Makes Citrus Growing Worth While

Get a free copy of the latest Booklet P11, which tells you how the operation has been immensely simplified and cheapened. It must interest you, and it costs nothing. So write for a copy to-day, whilst you have it in mind.

State Distributors:

New South Wales: Buzacott & Co.
Ltd., Sydney.

Queensland: Buzacott's (Qld.) Ltd.,
Brisbane.

Victoria: A. Victor Leggo & Co.,
Melbourne.

West Australia: Harris, Scarfe &
Sandovers Ltd., Perth.

South Australia: The S.A. Farmers'
Co-op. Union Ltd., Adelaide.

Tasmania: Davidson & French,
Launceston; Roberts & Co.
Ltd., Hobart.

SUPPORT CO-OPERATION

By Consigning your
FRUIT to the

Producers' Distributing Society Ltd.

(Late Coastal Farmers' Co-operative
Society Ltd.)

— Agents for —

"BLACK LEAF 40"

and all Orchard Requirements

Melbourne Sydney
Newcastle Hobart
Launceston Devonport

ESTABLISHED 1891

AUG. STIER

FRUIT BROKER, Fruchhof, HAMBURG

Telegraphic Address: FRUTERO, Hamburg.
Consignments Solicited

Agents for Victoria and South Australia:—

J. B. MILLS & CO., Bank House, Bank Place
MELBOURNE

Tasmanian Representatives:

C. PIESSE & CO.

7 Elizabeth Street, Hobart,

ANOTHER PEST ELIMINATED

No present day Orchardist expects to keep his fruit trees alive and in full bearing unless he can keep down, by spraying with poisonous liquids, the thousand and one insect pests, fungoid growths, and other similar evils to which his trees are always subject.

Just as your trees are attacked, so is all your steel and ironwork, which forms the largest part of tools and implements you buy.

The cancer of rust will eat all your plant unless it is
ZINC SPRAYED BY THE SCHOOF METAL SPRAY PROCESS.

No zinc sprayed article exposed to atmospheric conditions has ever rusted.

When ordering Refrigerator Coils, Tanks, Dryers, Spraying Outfits, specify all steel work to be metal sprayed.

Fruit juice containers, expressing machines, and other apparatus used in manufacture of foodstuffs can be tin sprayed.

Ask for booklets and other information from

ALUMINO-THERMIC & METAL SPRAYERS LTD.

Union House, 247 George Street, Sydney

Tel. BW 6467.

Box 219D G.P.O.

Corkscrew Steel Fencing Posts

All previous defects associated with Iron Posts eliminated

FIREPROOF. WHITE ANT PROOF.

Owing to the corkscrew construction of these Posts, they have a tremendous grip in the ground, and it is only necessary to drive them in 16 inches, in practically any kind of soil. We suggest using about a 5lb. hammer for the purpose. The Posts are bored to specification without extra charge. It is necessary to use the ordinary wooden strainers.

THE MAIN FEATURES ARE:

PERMANENCY.—The Posts will last a lifetime, and will also ensure the Wire lasting a similar period.

INDESTRUCTIBILITY.—The Posts are unbreakable, and their flexibility and resiliency enable the fence to maintain its true position, even after being subjected to pressure. The fact that a single post will bend when not in the fence is not a detriment, but we claim it to be one of its greatest merits, as any other iron or steel post of somewhat similar size is liable to fracture when subjected to pressure, which is impossible with the Corkscrew Post. This Post when bent can just as easily be straightened again without injury to the post.

Obtainable from—

Sole Agents for
N.S.W.—

The Commonwealth Wool & Produce Co. Ltd.

CHEAPNESS OF RAIL TRANSPORT AND HAULAGE CHARGES.

The Posts are carried at the same rate as fencing wire on the railways, viz.: 2 tons or over, "A" Rate; 1 ton, "B" Rate; under 1 ton, 1st class. For a distance of, say, 300 miles, the rates would be:—

"A"	£2 7 6	per ton
"B"	£3 7 6	"
1st Class	£6 14 2	"

At "A" Rate the cost per post would be approximately 1d. for the above distance. These posts can be despatched with wire netting and fencing wire to make up minimum quantities to save freight.

CHEAPNESS AND QUICKNESS OF ERECTION.

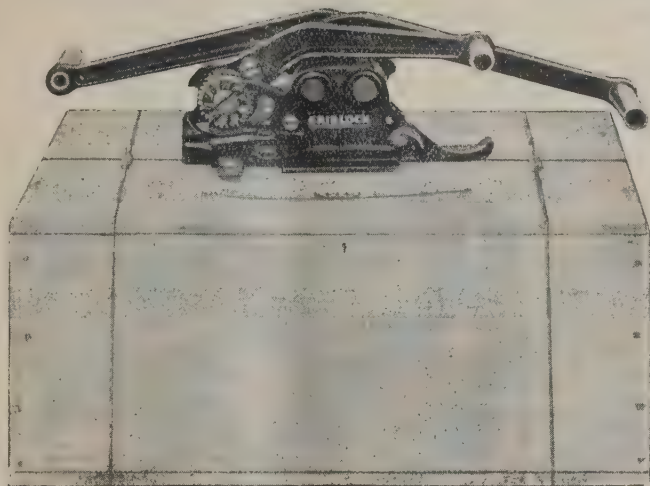
The saving in this item will be found to be enormous.

PRICES AND WEIGHTS:

5 feet, about 4½lbs. (500 to ton), 1/6 each. 5 feet 6 inches, about 5 lbs. (450 to ton), 1/7½ each. F.O.R., Sydney. Longer Posts can also be supplied.

Station Supplies Department (1st Floor)
3 Bent Street, SYDNEY

FOR BEST FRUIT PRICES — WIRE-STRAP YOUR CASES



in the
LATEST AND MOST IMPROVED
METHOD

The "GRIPLOCK"

is the most efficient as well as the
cheapest BOX STRAPPING method
on the market.

IT IS THE ONLY TOOL
WHICH OPERATES A
HARD WIRE

Once GRIP-LOCKED the wire
cannot be tampered with.

The Griplock improved Box Strapping tool.

Full particulars from:—

JAS. HENTY & CO., Henty House, 499 Lt. Collins St., Melbourne

Phone: Cent. 3, 4 or 5

THE "Garden Lover"

The Brightest
Horticultural Monthly

ANNUAL SUBSCRIPTION.

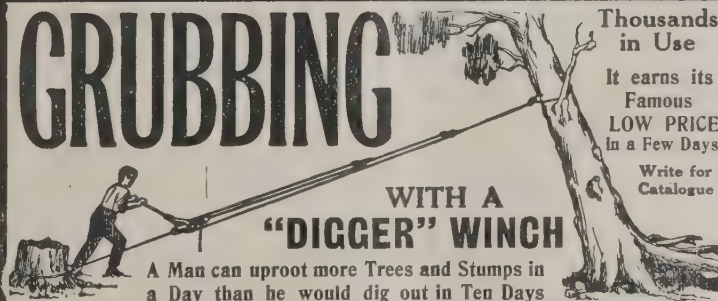
Commonwealth	6/-	Posted
British Poss.	8/-	"
Foreign	8/6	"

ORDER YOUR COPIES NOW

THE "GARDEN LOVER"

Bank House, Bank Place, Melbourne

GRUBBING



Thousands
in Use

It earns its
Famous
LOW PRICE
in a Few Days

Write for
Catalogue

WITH A
"DIGGER" WINCH

A Man can uproot more Trees and Stumps in
a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

Latham Dehydrators

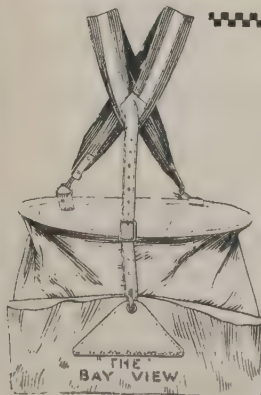
"STAND ALONE"

The "Rolls Royce" of the Artificial Drying
World.

Particulars, Prices, and list of present
users on application

D. J. LATHAM

157 Queen Street,
Melbourne, Australia



"Bay View" Fruit Picking Bag

CAN BE USED FOR ANY CLASS OF FRUIT

Allows use of Both Hands in Picking

No Bruising of Fruit

Weight Carried on Shoulders instead of
Back of Neck

Mr. J. LANG, President of the Australian Conference of
Fruitgrowers, writes:—"After two seasons' use I am well
pleased with the Bags: fruit receives minimum of handling,
and is less liable to damage. They are also a great time saver."

PRICE, 12/6 EACH

Postage in Victoria, One bag, 1/3. Two bags, 2/-
Postage. Interstate, One bag, 2/2. Two bags, 3/8

F. R. MELLOR, 440 Elizabeth St., MELB.

Only One Sprayer Has ALL of These Advantages :---

Powerful Pump and Engine

Semi-circular Vat, built round axle and thus balanced perfectly

Broad High Wheels (42 inches x 6 inches)—easily drawn over soft ground

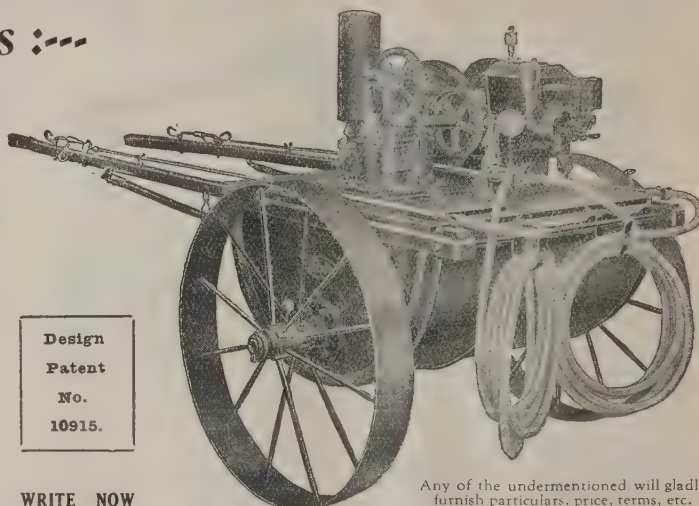
Patented Relief Valve—adjustable to any pressure and released instantly

AND THAT ONE IS

Cooper

“PERFECT BALANCE”

The Best Sprayer Made



Design
Patent
No.
10915.

WRITE NOW



Any of the undermentioned will gladly furnish particulars, price, terms, etc.

Cooper Engineering Co. Ltd.

350-358 SPENCER ST., MELBOURNE

129-131 SUSSEX STREET, SYDNEY

Australasian Implement & House Furnishing Co., ADELAIDE

Northern Motors Pty. Ltd., LAUNCESTON

Roberts & Co. Pty. Ltd., HOBART

FRUIT WRAPPING PAPER

Stocks of highest-grade Californian Fruit Tissue available this month.
wrapping export fruit.

The quality of this paper is unsurpassed for

Stocks of all sizes available throughout the year.

We solicit your enquiries

CHAS. R. GABB & CO., 88-94 Franklin St., Melbourne

and 16 Chester Street, Adelaide

Phones: F 2121 and F 2122



Fruchthof-Bremen

Fruchthandel Gesellschaft Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen

Established 1902

AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

Tasmania: Messrs. E. R. Cottier & Co., Hobart.

SALES DEPOTS.

No. 542-543 Covent Garden Market.
No. 100-101 Long Acre.
No. 1 Endell Street.

Cables—Spinach, London.
Codes—A.B.C., 5th Edition; Bentley's.

OFFICES:
97, 98, 100, 101 Long Acre.

FRUITGROWERS!

Consign your Fruit to

PASK, CORNISH & SMART

COVENT GARDEN

LONDON, W.C.2, England

THE PROGRESSIVE FIRM of FRUIT SALESMEN

Who have the necessary extensive clientele to assure sales at top market prices. Spacious Sale Rooms suitably situated to display fruit to very best advantage.

Reasonable advances made against Bills of Lading. Balances paid by cheques drawn on Australasian Banks.

Sales entirely by Private Treaty

Last year handled more than ONE MILLION Packages of English, Colonial and Foreign Fruits.

REPRESENTED AT

TASMANIA
AUSTRALIA

SOUTH AFRICA
NEW YORK
TENERIFFE

ST. MICHAELS
LAS PALMAS

and all Principal Fruit Growing Centres in England, France, Spain
Belgium and Holland.

Tasmania Representatives—

E. R. COTTIER & CO., Finance Company Chambers, 82 Collins Street, Hobart

Western Australia Representatives—

THOS. HAYWARD & SONS LIMITED, Bunbury, W.A.

REPRESENTATIVES REQUIRED in South Australia, Victoria and New Zealand.

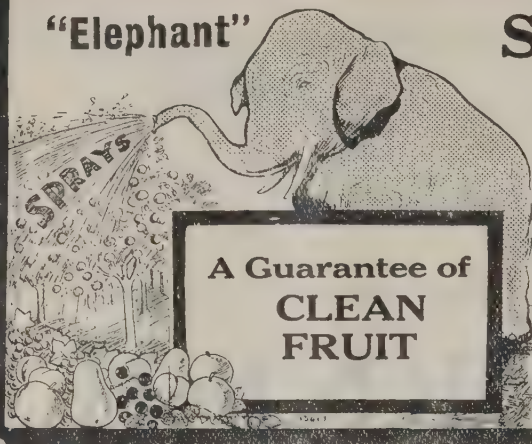
"Elephant"

STILL ON TOP!!

Orchardists : Apples will be scarce and worth money this season therefore it is to your advantage to spray whatever apples you have. You will also reduce the number of codlins for next season.

Therefore see that you get

"Elephant" Brand



ARSENATE OF LEAD (PASTE & POWDER)

To obtain the best results it is necessary to spray thoroughly and frequently with Arsenate of Lead. This takes up considerable time, and is costly. It is therefore all the more necessary to use the Best Brand obtainable. To be sure of this, see that you use **"ELEPHANT" BRAND**, which has been proved to be not only the most reliable on the Australian market for many years, but the Highest Grade of Arsenate of Lead still obtainable.

Since the Wonderfully fine **"ELEPHANT" BRAND ARSENATE OF LEAD** came on the market years ago, numerous tests carried out by the various Government Agricultural Departments invariably show that this Brand stands alone. No other brand has shown consistently the very high qualities of **"ELEPHANT" Brand**. The figures published below speak for themselves,

And are THE ONLY RESULTS PUBLISHED IN THE SOUTH AUSTRALIAN JOURNAL FOR AGRICULTURE DURING THE PAST FOUR YEARS.

In 1921 **"ELEPHANT" BRAND ARSENATE OF LEAD** had the wonderful suspension of 89.35% (Jan. Journal), whilst in 1922 the Percentage was 52.4% (Mar., 1923, Journal), and in 1923 the percentage was 82.2%. (This was the last published in Dec. Journal). In each case **"ELEPHANT"** came out easily on top. Therefore we have not yet been beaten for suspension, and it should also be noted that the percentage of killing property in our Arsenate of Lead is particularly high.

Citrus Growers: Now is the time to order Red Oil. We can assure you E.B. stands alone. Try it

Write for a copy of Government tests on Arsenate of Lead.

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

Agents: Seedsmen, &c.

INTERSTATE AGENTS:

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFORD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR FEBRUARY, 1927

Apples, Arsenic on	92
An Australian Abroad	85
Beekeeping Notes	88
Canned Fruit Industry: Fruit Pack; Items of Interest	61-3
Citrus Grower: Aphelinus Mali; Murray Growers; Californian Exchange; News and Notes	82-83
Cold Storage: Harcourt Cool Store; Government Cool Stores; Charges, etc.	70
Co-operative Principles ver- sus Compulsory Association . .	53-59
Currant Moth, The	xvi
Dried Fruits Dept.: Drying Apricots; Pests; Prune Export; Raisin Imports; Prices; News and Notes	66-68; xvi
Editorial, Organising the Fruit Industry	55-56
Export; Fresh Fruit Con- trol	77, 95, xvii
Fruit Decay, Causes of	xvi
Irrigation in U.S.A.	96, xv
Marketing Fruit	71
Markets: British and Aus- tralasian	89, 90, xvii
New South Wales: Fruit- growers' Federation; Dis- trict Notes	60
News in Brief	56-57
New Zealand: Items of In- terest	74
Personal	54
Orchard: Seasonable Work in the; All States	76-77
Pests: Fighting Insect Pests and Diseases	57, 75
Poultry Notes	87
Queensland: Cultural News and Notes; Committee of Direction	78-81
South Australia: Items of Interest	84-85
Tasmania: Orchard Notes . .	91-92
Victoria: Apple and Pear Growers' Association; Fruit Council; News and Notes	69
Western Australia: Growth of Fruit Industry; Items of Interest	64-65

INDEX TO ADVERTISERS.

Books, Publications— "Garden Lover," Bank House, Bank Place, Melbourne, pp. 49, xxi. Whitecombe's Australian Gardening Handbooks, Hort. Press Pty. Ltd., Bank House, Melbourne, p. xviii. "Fungus Diseases of Fruit Trees," Fruit World Pty. Ltd., Bank House, Melbourne, cover ii. Budding Knives. O. Nobellus, Kia Ora Nurseries, Narre Warren, Vic., p. 68. Canning Machines— Heine, John and Son Ltd., Sydney, N.S.W., p. xx. Tombs & Howcroft Pty. Ltd., 369 Post Office Place, Melbourne, p. xxii. Cases— "Softwood" Overseas and Interstate Trading Co. Ltd., 52 Market St., Melbourne, p. 93. "Air Free" Case, F. Cave & Co. Pty. Ltd., Western Market, Melbourne, p. xviii. Cold Storage— Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii. Dehydration— Latham D. J., Sun Buildings, Queen St., Melbourne, p. 49. "Simplex" Clyde Engineering Co. Ltd., Granville, N.S.W., p. 96. Dusting Machines— Atomol Dusts Ltd., Dumfries Place, Adelaide, p. iv. "Niagara" Duster Gun, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi. Fruit Buyers— Brooke, C. M., & Sons, Whiteman St., South Melbourne, p. xvi. Fruit Tree Suppliers— Bunning John, and Sons, Somerville, cover 54. Picnic Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii. Two Rays Nurseries, Moorooduc, Vic., p. ix. Fruit Graders— "Lightning," Lightning Fruit Grader Co., 5 Hoddle St., Collingwood (Vic.), p. 88. Fumigation— "Cyanogas," Buzacott & Co. Ltd., Syd- ney, p. xiii. "Vitamite," Lincoln & Blunt, 191 Liverpool St., Sydney, p. x. Manures, Fertilisers, &c.— Sulphate of Ammonia, Australian Sul- phate of Ammonia Propaganda Com- mittee, 360 Collins St., Melbourne, p. xv. Motor Cars and Trucks— Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii. Orchard Requisites. McPherson's Pty. Ltd., 542 Collins St. Melbourne (Vic.), p. xi. Patent Attorney— Sey. A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne, p. 62. Picking Bag. "Bay View," F. R. Mellor, 440 Eliza- beth St., Melb., p. 49. Poultry— Karewood Poultry Spice, Agents all States, p. 86. "A. P. T. O." (Australian Poultryman's Trading Assn.), Sydney, p. 87. Refrigerating Machinery— Werner, R., & Co. Pty. Ltd., Richmond, Vic., cover iii.
--

Roller Conveyors—

Schumacher Mill Furnishing Works
Pty. Ltd., Port Melbourne, p. xxiv

Spray Material—

"Blue Bell" Arsenate of Lead, 31
Queen St., Melbourne, Vic., p. iii.
"Black Leaf 40," Tobacco By-Products
and Chemical Corp. Inc., Louisville,
Ky., U.S.A., p. xvi.
"Carlton" Arsenate of Lead, F. R.
Mellor, 440 Elizabeth St., Melb., p.
49.
"Cloudform" Dusts, Gibbs, Bright &
Co., 27 Grenfell St., Adelaide, p.
vi.
"Elephant" Brand, James Pty. Ltd.
Madden Grove, Burnley, Vic., p. 52.
"Maccoll" Miscible Oil, A. H. McDon-
ald & Co. Pty. Ltd., 570-4 Bridge
Rd., Richmond, p. xiii.
"Gargoyle" Spraying Oil, Vacuum Oil
Co. Pty. Ltd., cover i.
"Swift's" Arsenate of Lead, H. W.
Peabody & Co., Sydney and Mel-
bourne, p. viii.
Dusting Powders, Atomol Dusts Ltd.,
Dumfries Place, Adelaide, p. iv.
"Qua-Sul," Lincoln and Blunt, 191
Liverpool St., Sydney, p. x.
"Vallo" Arsenate of Lead, A. Victor
Leggo and Co., Melbourne, Sydney
and Brisbane, p. vii.
"Black Leaf 40," Producers' Distribut-
ing Soc. Ltd., Melbourne, p. xiv.
Berger's Arsenate of Lead, Neptune
Oil Co. Ltd., River St., Richmond
Vic., p. 92.
"Yarra" Fruit Sprays, Parsons &
Jaques, 6 Patterson St., Abbotsford,
Vic., p. xviii.

Spray Pumps and Guns—

"Amazon" 6-Ply Spray Hose, F. R.
Mellor, 440 Elizabeth St., Melb., p.
49.
Alumino-Thermic and Metal Sprayers
Ltd., 247 George St., Sydney, N.S.W.,
p. xiv.
"Bave-U" Power Sprayer, Russell &
Co., Box Hill, p. xviii.
"Bave-U" Power Sprayers, N.S.W.
Agent, E. Robinson, 333 George St.,
Sydney, p. 77.
"Cooper," Cooper Engineering Co. Ltd.,
199 Sussex St., Sydney and 350
Spencer St., Melbourne, p. 50.
"Rosebery" Spray Pump, A. H. McDon-
ald & Co. Pty. Ltd., 570-4 Bridge
Rd., Richmond, p. xiii.
Vermorel "Eclair" Sprayer, Cooper
Pegler & Co. Ltd., 24d Christopher
St., London, E.C.2, p. 80.

Strapping Fruit Cases—

"Griplock," Wire Strapping, Jas.
Henty & Co., 499 Lit. Collins St.,
Melbourne, p. 49.

Steel Fencing Posts—

Commonwealth Wool and Produce Co.
Ltd., Sydney, p. xiv.

Stencilling Inks—

Caldwell's Pty. Ltd., Yarra Bank Rd.,
South Melbourne, p. 78.

Tree and Stump Pullers—

Trewhella Bros., Trentham, Victoria
Stumping Jacks, etc., p. ix.
"Digger" (Quick Manufacturing Co.), 76
Pender St., Thornbury, p. 49.

Wrapping Paper—

Caro and Caronite, Dennys, Lascelles
Ltd., 422 Collins St., Melbourne, p.
95.
Californian Fruit Tissue, Chas. R.
Gabb & Co., 88 Franklin St., Melb.,
p. 50.

FRUIT TREES

The successful Orchardist is the man
who has things ready at the right time

**The Right Time to Order is Now
for 1927**

There are Huge Stocks to choose from

**Apples, Pears, Peaches, Plums, Apricots, Quinces,
Figs, Cherries, Oranges, Lemons, Mulberries, etc.**

FRUIT TREES EXPORTED TO ANY PART OF THE WORLD

Catalogs, etc.

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES
Somerville, Victoria, Australia

Phone : Somerville 11

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and
Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place
off 410 Collins Street, Melbourne

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart. **Western Australia:** D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane. **New Zealand:** Gordon & Gotch Ltd., Wellington, Dunedin and Auckland. **Great Britain:** Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

PERSONAL.

Mr. R. J. Boyne, Manager of the Australian Industrial and Mercantile Union, has been appointed chairman of the newly-constituted Canned Fruits Control Board.

The Minister for Markets and Migration (Mr. Paterson) is to visit Tasmania early in February for the purpose of discussing with growers matters relating to the marketing of fruit.

The turning of the first sod for the North-South Railway (Oodnadatta to Alice Springs), was performed by the Federal Minister for Works and Railways (Mr. Hill), on January 21.

Victorian Dried Fruits Board.—Messrs. R. Mansell, E. T. Henderson, and A. W. S. Lochhead, were elected to fill the positions of growers' representatives on the Victorian Dried Fruits Board.

Prof. A. J. Smith's report, that the severe pruning and intensive irrigation of Apple trees conduce to bitter pit, is questioned by our Tasmanian correspondent.

Editorial Chats



Organising the Fruit Industry.

Export Control and Other Matters.

THE ATTENTION now being paid to the better organising of the fruit industry is very welcome; if the energy which is being generated can be diverted into right channels permanent benefits will undoubtedly follow.

Casting one's mind back over the last two decades, one can recall enterprises which have achieved notable success, and others which have failed. There is a fundamental reason for success as well as for failure. The successes are where the growers in their individual districts have grouped themselves together in the erection of cool stores, packing sheds, and district trading societies; the failures have been where too ambitious schemes have been launched and antagonisms have been aroused.

There is a tendency on the part of the general press to speak in large terms of "the fruit industry"; but those who are closest in touch are fully aware of the fact that groupings in their natural order must be effected. The growers of Peaches for canning solve their problems apart from the efforts of the Apple growers, Citrus growers, or dried fruits producers; and so on throughout the piece.

The criticism levelled at conferences is that they all too frequently pass resolutions asking the "Government" to do this or that. This generally provokes a laugh at the conference, but the matter is worth considering. There are some things which the Government cannot do, but which can only be effectively attended to by the growers' organisations.

On the other hand, there are distinct functions in which the Government has tremendous responsibilities. In the matter of research, control of insect pests and fungoid diseases, the Government has large responsibilities; so without doubt the "pious resolutions" carried at conferences requesting scientific research are justified, and have, we think, led to notable improvements. There must always be co-operation between the growers and the Government officials in the matter of pest control, plant quarantine, and matters which affect the good name of any State or the Commonwealth.

There is an outstanding need for what have been generally termed "welfare associations"—that is, growers' associations to deal with matters of large policy, for mutual instruction and inspiration, which includes the breaking down of misunderstandings and bringing about harmony amongst those engaged in a similar enterprise. We affirm the necessity for district associations which merge into State-wide and Australian-wide associations, as conditions warrant. There are no fireworks needed. This is plain business co-operation on sound, ordered lines.

Fresh Fruit Export.

It is just here where the proposed "export control" falls short. In the first place there are diametrically opposed opinions, and the majority of growers, we believe, are against the proposed Export Control Bill. There is a tendency in this country with a small population to overlook the fact that Australia is larger in extent than the United States of America. To have an all-embracing con-

trol board for Apple and Pear export without the individual growers being organised, would place large powers in the hands of men who, despite their good intentions, may have not had the experience necessary to qualify them making decisions of big commercial importance. This, then, would become bureaucratic control. Would it not be infinitely better for the growers first to obtain control in their own districts; then, by uniting to speak with authority for the State or union of States?

One pleasing fact is the large increase in the f.o.b. trade and the steady increase in the purchasing of fruit direct from the growers or their organisations for the export trade. Already in Victoria alone this embraces over 70 per cent. If that principle were enlarged more purchasers would be attracted. Thus the proposal for a more or less experimental or theoretical Control Board could vanish.

Comparison with U.S.A.

American fruitgrowers have won their success by district organisation. The idea of a unified control is not to be thought of by them, the growers already having control through their district associations. In U.S.A. the grower sells to the big buyer—or jobber, as he is called; the fruit goes to local or export markets according to the desires of the purchaser.

It is incumbent upon those who urge export control to prove their case. After considering all that they deem to be possible, it is confessed that it is an experiment. The suggestion is here made, that the antagonism to the proposed Bill which is so widespread, could be turned into friendly co-operation were the advocates of control to first organise their own districts, and then to see about the larger aspect of State-wide efficiency.

There is no effective comparison between the industries which are working under Control Bills and the fresh fruit industry. Even were the Dairy Produce and Dried Fruits Controls a pronounced success, this would be no guide to the possibilities of a Fresh Fruit Control Bill. With dried fruits all the goods are sent on consignment; with butter there is a preponderance of consignment as against f.o.b. purchases. With canned fruits the goods are bought here before being shipped. These goods can all be stored prior to sale. Fresh fruit must be sold immediately on arrival.

With fresh fruit there is in Victoria a preponderance of f.o.b. sales; all over Australia the proportion is about 50-50. These facts demonstrate the impossibility of effective comparison.

But the experiences of other Control Boards do not inspire confidence. It is a serious matter to tamper with that delicate machinery—the market—which fluctuates according to conditions over which there is no control.

Some Constructive Thoughts.

There is ample scope for improvement in the various sections of the fruit industry. If the men of ability, who are advocating export control would put the same vigor into organising their districts or associations, the way would be clear for such larger movements as were deemed to be necessary. A great ideal is worth fighting for, but in the attainment of it we must not neglect the practical details.

What Others are Thinking.

In view of the advocacy of some for a board to control the export of Australian fruit, it is interesting to notice the attitude of others on the subject. Mr. Herbert Hoover, Secretary of Commerce, U.S.A., an outstanding figure in the economic life of America, stated recently:—"I am one who believes strongly that full constructive competition must be preserved in the manufacture and distribution of commodities. The virility and strength of our whole economic system springs from spontaneous enterprise and the stimulation of competition. But competition does not necessarily imply destructive competi-

tion. It does imply that we must maintain a sufficient number of independent units in any given industry to assure us that the fundamental competition is sustained. Obviously, we do not want units too big or controls so wide that they become a menace to the public, or destroy individual initiative or equality of opportunities."

Two recent visitors to the Old Country are the Hon. H. H. Smith, M.L.C., and the Hon. W. Tyner, M.L.C., both of whom, after suggesting improvements in the grading of Apples, and the use of softwood cases with neatly printed labels, are very definite in their opinion that the Control Boards at present operating are harmful to the industries concerned. The Dairy Produce Control Board

and the Dried Fruits Control Board are declared to be wasteful and inefficient, and the system is wrong. They emphatically insist that it would be a grave mistake for the export trade in Apples to come under another such Board of Control. The best method of improving the trade is by the growers themselves organising in their own districts, thus securing local control; they can then combine into larger organisation as may be found necessary.

President Coolidge, in his annual message to Congress in December, counselled against any farm relief that would put the Government into the business of production, marketing, or price fixing in connection with farm products.

News in Brief

South Australian Apple-growers have asked for Federal assistance to make up to 1926 export losses, on the same terms as granted to Tasmania.

There is a currant vine at Angaston, South Australia, which is over 45 years old and covers 1,600 super feet. One year 590 lbs. of dried fruit was taken off it, says the "Garden and Field." It is believed to be the largest Grape vine in Australia.

Tests made in Western Australia appear to indicate that the woolly aphid parasite (*Aphelinus mali*) will also prove useful in the control of the Citrus black aphid.

Owing to unfavorable weather conditions in U.S.A., the commercial Apple crop has been very considerably reduced, whilst a severe frost in September has militated against the keeping qualities of the Apples. There will thus be less competition than usual from American Apples when Australasian fruit commences to arrive on the British market, and the prospects for exporters are regarded as good.

A suggestion is made by Mr. W. J. Williamson, Portland, that inspection of Apples for export should be carried out at local packing sheds, each grower to have a registered number, and each shed a registered brand under which all fruit would be sold.

Speaking at Vancouver, British Columbia, on January 12, the Prime Minister (Mr. Bruce) recommended fruitgrowers to get into direct touch with importers in Australia, with a view to increasing trade between the two countries.

The Australian Industrial Delegation to U.S.A., will comprise four representative employers and four

representative employees, two women "observers," a Government official, and four press representatives. It will leave Australia about the end of February, and will probably have completed its investigations of industrial conditions in America in time to return to the Commonwealth about July.

Dr. Kidd, of the Department of Scientific and Industrial Research in Great Britain, is on his way to Australia, via South Africa, to carry out two months' research work in fruit carrying. The Empire Marketing Board is also sending out scientists to investigate marketing problems from this end. Among them is Mr. Myers (entomologist), who will investigate dried fruit problems.

Mr. Wallace Ross, who was appointed to enquire into the efficiency of the Victorian Public Service, has issued a comprehensive report condemning wastefulness, unnecessary routine work and "red tape" methods. Specific instances are given, and the recommendations are receiving the attention of the Government.

N.Z. orchardists have purchased large numbers of fruit trees (particularly stone fruits) from Australia during the past planting season.

That America is making a deliberate and calculated attempt to obtain control of the British fruit market, and at all costs to kill the competition coming from Australia, New Zealand, and other parts of the Empire, is the considered opinion of Col. Gray, Chairman N.Z. Fruit Export Control Board, who recently returned from a prolonged study of marketing conditions abroad.

Pears have been successfully shipped from California to British and Eastern Markets in sealed airtight tins.

Last year the Australian canned fruit pack was 2½ million dozen tins,

of which nearly half a million dozen were exported.

There are practically no local Apricots on the New Zealand markets this year, owing to severe late frosts in Central Otago, which produces the bulk of this fruit. Enquiries are being made re methods of frost prevention.

Jusfrute Ltd., of Gosford, N.S.W., propose to open a new factory in either Queensland or Victoria for the making of fruit drinks, etc., from cull citrus fruits, particularly Lemons.

An endeavour is being made to float a company at Bowen (Q.) to make Tomato pulp and to can other produce.

During 1927 Bowen growers propose to test the efficacy of electro-culture for growing crops.

A beverage produced from dried prunes, in the nature of a "soft drink," is the latest announcement from Oregon. This is being manufactured by the Major Fruit Products Company of Portland.

A severe hailstorm at Johannesburg (South Africa) early in December, did considerable damage to the fruit crops, particularly Peaches. Two farmers alone estimate their losses at over £1,500.

Berri Apricot Crop.—The Apricot crop in the Berri district has been harvested, and large quantities delivered to the packing sheds. It is stated that the average sample is very clean, but the fruit generally is a little smaller than usual.

The heat wave in the Murray Valley has apparently done little damage to the fruit crops.

Renmark Railway.—The new Paringa bridge and railway into Renmark (S.A.), have just been completed, and will be opened by a member of the South Australian Cabinet on January 31.

It is felt that the opening of the line is another milestone towards the prosperity of Renmark and the surrounding districts. It will mean a saving of thousands of pounds in freight to the fruitgrowers.

Flying foxes are causing damage to fruit crops on the M.I.A., and steps are being taken to eradicate the pest.

Mr. A. V. Lyon, M.Sc., of the Viticultural Research Station, Merbein, visited the Murray River Settlements during January to lecture to growers on methods of controlling the dried fruit grub.

Colonel Gray, Chairman of the N.Z. Fruit Export Control Board, anticipates that growers must be satisfied with prices ranging from 12/- to 15/- per case this season.

At Mildura on January 6, the Minister for Markets and Migration (Mr. Paterson) announced that the Federal Government had decided to release

1,379 growers from repayment of dried fruits advances, and to write off £108,480 and interest.

Legal action was taken in Queensland recently by the purchaser of a Banana farm, to annul the sale and recover damages owing to misrepresentation by the salesman in regard to the productivity of the land.

A Bill to control marketing of dried fruits has been introduced in the N.S.W. Parliament. An Act similar to those in operation in Victoria and South Australia was recently passed in Western Australia.

Your excellent paper always affords me interesting and useful information, and it is very much in our interests that it should get any help it can from growers.—E. B. Pixley, Lymington South, Tas., 15/1/27.

Lemons are a scarce commodity in Russia, due to the fact that the State, which controls all foreign trade, re-

gards cotton and machinery as more necessary import items than Lemons. The last Lemon sold in Moscow was reported as having brought 50 cents. The Russian tea will hereafter have to be served without the Lemon.

A new invention in regard to the submarine cable is being put into operation, which it is said will "put Australia on the doorstep of England." At the same time the beam wireless tests are said to show that wireless telegraphic traffic can be satisfactorily dealt with.

ENTOMOLOGIST FOR THE M.I.A.

On the recommendation of the Department of Agriculture, Mr. McKeown has been appointed Entomologist on the Murrumbidgee Irrigation Areas, to make a study of the various insect pests affecting the orchards, particularly the Peach aphid, with the object of determining better methods of control.

FRUIT PESTS AND DISEASES.

Need for Scientific Research.

THERE IS URGENT NEED for continuous research into the many cultural problems confronting the fruit industry.

The Council for Scientific and Industrial Research, co-operating with the State Departments of Agriculture, could do much to assist growers.

By reducing losses by pests, and making orchards more productive, the prosperity of individual growers, and the country as a whole would be enhanced. The present wastage is an economic loss to the Commonwealth.

Some important aspects are set forth in a letter to the Editor of the "Fruit World," by Mr. W. Young, of Ardmona, a well-informed grower, and one who is widely esteemed. Mr. Young writes:—

One cannot stress too greatly the need for continuous scientific research into the pest problem, which grows worse every year. As regards the Rutherglen bug, I believe that a similar pest in America, the Kinch bug, has been controlled by introducing a disease amongst them with splendid results.

There is also the green aphid pest which is getting gradually worse in the Goulburn Valley and doing enormous damage every year. If the Department could breed ladybirds, which are very effective, but come too late in the year, this pest could be

controlled. I understand that these ladybirds are now bred in America and sold to the growers by weight, like bees. There is also the root borer pest. I believe a parasite for this was discovered by Mr. Davey, Chief Orchard Supervisor, this matter should certainly be pursued further.

There is also brown rot, thrips, etc., which would repay careful and continuous research, as these various pests must lose hundreds of thousands of pounds to this State every year.

We can very heartily endorse Mr. Young's remarks.

The present losses by insect pests and fungus diseases are too great. Research work can only be done by trained men with adequate equipment.

The announcement that the Research Council is appointing a highly-trained entomologist is welcome. It is to be hoped that he will have a full staff of assistants and that thus, by co-operating with the State Agricultural Departments, prompt service will be rendered in solving some of these pressing problems.

N.S.W. IMPORTATIONS OF GRAPE VINES.

The proclamation governing the importation of Grape vines into New South Wales from other States has been amended, and now permits of the introduction of vines from South Australia and Western Australia only.

THE BLACKBERRY PEST.

Fruitgrowers in the Beaconsfield (Vic.), area are alarmed at the rapid spread of the Blackberry pest. Mr. C. D. Colles, Secretary of the Beaconsfield Upper Fruitgrowers' Association, states that no time should be lost by the authorities in dealing with the scourge. In particular certain Government Departments have grave responsibilities, including the State Rivers and Water Supply Commission, the Closer Settlement Board, the Railway Department, and the Forestry Commission, as the areas under their jurisdiction are infested.

A FERTILE VALLEY.

It is estimated that 50,000 carloads of agricultural and other products will be shipped from the Yakima Valley (Washington, U.S.A.), to national and foreign markets by the end of the 1926-27 season. This enormous production should bring an estimated gross return of more than £8,000,000, says "The New Reclamation Era."

Apples will constitute the largest tonnage, and it is estimated that between 15,000 and 16,000 cars of the fruit will be marketed. On the basis of 4/9 a box to the grower, the producers will be paid between £2,600,000 and £2,800,000 for this crop alone. Pears, Peaches, Potatoes, Hops, sheep, and hogs will make up the other large shipments.

Successful Co-operative Principles Versus Compulsory Association.

(By Bruce W. McDaniel, Editor "Citrus Leaves," General Counsel, Mutual Orange Distributors, California, U.S.A.)

(Specially written for the "Fruit World.")

MEN CANNOT BE FORCED to co-operate; coercion and co-operation are diametrically opposed.

The basic principle of true co-operative activity (whether it be in marketing, packing or producing agricultural, horticultural or viticultural products) is the right to voluntarily associate with men who have similar problems and purposes to the end that common problems may be more expeditiously, intelligently and economically solved by common effort; and, with the natural result that the fruits of such collective effort may be proportionately received and enjoyed by those who so voluntarily pool their desires, labor and capital.

Personal Equation Rules.

The moment pressure supplants personal decision or coercion supplants voluntary contract, or force supplants freedom of operation, the germ of co-operation is killed. Men who are dissatisfied will not co-operate, and a man who is compelled, by outside pressure or influence, to act against his will is naturally resentful and dissatisfied. The personal equation is the backbone of collective activity and to overlook this fundamental attribute of co-operation is to build on shifting sands.

Association Idea Old.

Men have co-operated since the world began. When the cavemen realised that two could more easily roll the huge rocks into place; when the earliest redmen learned that two could more easily chase and slay the beasts of the forests; when men all over the world realised that two could more easily plant and harvest the community grain supply, and found that concerted effort brought security of home and a more pleasant life—the principles of co-operation were unconsciously put into motion. Co-operation grew with civilisation.

Medium for Service.

Co-operation is not a mystic formula for success. It merely furnishes a medium through which men may achieve legitimate results with an economy of money and labor. No matter how elaborate the legal and physical structure of the co-operative may be; no matter how sound and solid the principles may be, co-operatives succeed only in direct ratio to the amount of personal effort, intelligent supervision, and sound business practices put into them. The human equation is the controlling factor, and the power and efficiency of that factor is dependent upon freedom of action—voluntary association, not compulsory or coercive co-operation. Compulsion kills incentive, and incentive is the driving power of co-operative or collective effort. Not only does coercion kill the vital element, but compulsory co-operation means politics, and politics and ideal co-

operative principles do not mix. The growers demand independence in the production and marketing of their crop. Compulsory monopoly takes that right away and kills the things it attempts to create.

Personal Effort Required.

Common sense and hard work are two of the principal factors contributing to the success of a co-operative. Those who affiliate with a co-operative, by affiliating, secure an opportunity to serve both themselves and their neighbors. Joining is the simplest act. It merely gives the right and chance to serve. The amount of good derived by a grower from his co-operative depends, in great measure, upon the amount of effort he puts into it. He, naturally, is benefited by being a member for the sacrifice and labor of his neighbors reacts in his favor, but the co-operative does not reach the zenith of efficiency until each member puts his very best into it, and, until that time arrives, co-operative activity will not be giving maximum results. There is no place in co-operation for dead wood.

Benefits of Co-operation.

The real benefits of co-operation, as applied to the packing and marketing of fruit, and other agricultural, horticultural and viticultural products, may be generally summarised as follows:—

1. Standardisation of grade, pack and quality.
2. Increased production of better quality products.
3. Increased uniformity in packing.
4. More uniform, intelligent and efficient distribution and marketing.
5. Collective buying of materials, supplies and accessories at group purchasing prices.
6. Collective advertising of trade names and brands resulting in increased demands.
7. A general upbuilding of production methods.
8. The unification of agriculture as a political, economic and social force.

Rights of Co-operator.

To attain these benefits, the co-operative organisation must, according to the history of co-operative effort, base its activities upon several very definite and fundamental principles and policies. There are several factors of primary importance from the grower's viewpoint, such as:—

1. The right to voluntarily co-operate.
2. The right to withdraw periodically from the organisation.
3. The right of equitable representation in voting and property interests.
4. The right to know all important facts concerning the operation and activities, the policies and practices of the organisation.

Rights of Co-operative.

On the other hand, the co-operative must have certain definite powers, such as—

1. The right to terminate, periodically, the membership or relation to the co-operative of any grower after adjusting property rights.
2. The right to maintain a standard of grades, packs and quality so as to keep the integrity

of its trade names and brands.

3. The right to expect the loyal, wholehearted and sincere co-operation, advice and aid of each member as long as he is a bona fide member.
4. The right to expect that members shall discuss their problems freely, openly and quietly during meetings, rather than remain silent during meetings and grumble afterwards.
5. The right to expect that each member will keep personally advised concerning the true status of the affairs of the co-operative.
6. The right to direct the manner in which, and the time when, the crop in question shall be distributed and marketed; which, incidentally, relates back to the manner in which, and the time and rapidity of the harvesting of the product.

Confidence Necessary.

While some co-operatives, by ironclad rules, attempt to enforce the sixth right just set forth above, in the final analysis, the grower is the judge and will rule if he so desires. Any co-operative which has the faith and confidence of its members will be given this right—the growers will be anxious to have it determine such important questions for the co-operative is in a position to know and possess authentic data upon which to base its decisions. The average grower has neither the funds nor opportunity to keep his finger on the pulse of the markets of the world.

Co-operative Must Serve.

Coupled with these general policies is a paramount factor: Co-operatives are organised primarily to serve the grower, to enable him to efficiently and economically distribute his products to the consuming public. The public benefits in direct ratio with the producer. The producers should be in control of the co-operative movement. The moment one co-operative secures a majority of the marketing of any one commodity, the grower loses his independence. While, theoretically, 100 per cent. control may seem logical, yet, it is unsound when put into actual practice. Human nature has not yet reached the point where arrogance, selfishness and laxity do not follow monopolistic control.

Create Competition.

The solution of the monopolistic problem lies not in abolishing the monopolistic co-operative, but rather in creating another co-operative in the same field. Experience is showing that where at least two non-profit, co-operative marketing organisations distribute a given commodity both the producers and consumers are benefited. So strongly is this idea being planted, that organisations which formerly fought to obtain a monopolistic throat-hold are now voluntarily reducing their output.

No organisation can ever hope to have 100 per cent. of the growers in its ranks and keep that 100 per cent. satisfied. Consequently (unless compulsory methods are used which will only fan the flames), there will always be a more or less influential group outside of the so-called monopoly.

That group, for the benefit of agriculture, should likewise be exponents and members in a co-operative unit.

Competition Makes Progress.

The effect of competition between co-operatives is strikingly apparent. When a competitive co-operative enters the field several very worthwhile re-actions take place. Competition begets activity, for its advent means the application of the law of survival of the fittest. The co-operative, which, because of its monopoly, became arrogant, dictatorial, lax, wasteful and unprogressive, is forced to exert its best to keep pace with its rival. It must become tolerant, give better service, eliminate wasteful methods and get results. Competition awakens the desire to excel and puts the spirit of progress into the hearts of men. It has been very apparent in California that competition has bettered the position of the grower, placed the industry on a sounder foundation and brought about greater efficiency.

Medium of Comparison.

One of the outstanding benefits of competition between co-operatives has been the supplying of a medium of measure by which growers may determine the efficiency of their co-operative. With a monopoly in control, the grower has no method of knowing whether or not his returns really represent the value of his product. The grower has no standard of comparison, no yardstick by which to measure the efficiency or inefficiency by his sales organisation. With competitive co-operatives in the field the grower may compare his returns and choose the co-operative which seems to be operating in the most efficient manner. He keeps his independence; the co-operative ceases to be dictator and becomes a medium of service. As the co-operative movement progresses, those who follow its trend closely cannot help but note the gradual breaking down of monopolistic theories and the adoption of a more fundamental ideal—that of service. So long as co-operatives serve they shall prosper, but the moment the need of such service ceases, or the co-operative attempts to hold its members by coercion and force instead of results, the co-operative faces disaster. Co-operation, first of all, sprouts in the brain and men who do not wish to co-operate can never be forced to do so. Force and co-operation are far apart.

The will to co-operate; a sane marketing plan coupled with a sufficient volume of fruit of reasonably uniform grade and pack, and a co-operative managed by men of acumen, vision and a sincere desire to carry out the purposes for which the association is organised, form the essential requisites of a successful co-operative group. Behind the whole structure, however, is the controlling force—voluntary association as opposed to compulsory association. Men may be forced to group themselves together, but no power can compel them to co-operate. The spirit of co-operation is the fruit of faith, confidence and sacrifice.

New South Wales.

Fruitgrowers' Federation

: News and Notes

RICE GROWING ON THE M.I.A.

The N.S.W. Minister for Agriculture, who is also Chairman of the Water Conservation and Irrigation Commission, has supplied the following statement in connection with Rice growing on the Murrumbidgee Irrigation Areas.

The rain that caused so much trouble on the Areas during last harvesting season continued on through August and September, and delayed somewhat the preparation of the land for this season's plantings. Every effort was made to have the land ready by early October, and in most cases the settlers were successful. The whole of the Rice fields on the Areas have recently been inspected, and with very few exceptions the conditions are entirely satisfactory. The weather has been in favour of late planting, and the germination has been more satisfactory than that of last season. The strike has been good, and in many cases the crops have been sufficiently advanced to necessitate the holding up of water for some weeks past.

It is not anticipated that unfavorable weather conditions will be experienced again during the coming harvest. At the same time, as there is a much larger area to cope with, growers should be prepared to harvest the crops at the earliest opportunity, and would be well advised to have harvesting machinery in readiness.

The experience gained last year points to the power driven binder as being the most efficient machine under all conditions, although some crops were successfully harvested last season by means of a "Header."

Generally speaking, the fields are very promising, and it is anticipated that the excellent results achieved last year will be repeated except in cases where the settlers have supplied their own seed, planted late, badly prepared stubble land, or departed from the usual design; these cannot be expected to give such good results as those planted and worked under recognised conditions.

The total area planted to Rice this season is 5,110 acres, of which 1,072 acres are on land that gave Rice last season.

N.S.W. FRUITGROWERS' FEDERATION.

The New Constitution.

At the January meeting of the N.S.W. Fruitgrowers' Federation, a reply was received from the Minister for Agriculture, agreeing to the disbanding of the Advisory Board, and signifying his intention to look to the Federation for advice in the future. The draft constitution was approved by the Minister, provided amendments were made whereby the Minister would not be required to pay over to the Federation the whole sum collected for orchard registration, but that he would have the right to pay a sum based on an estimate of the financial requirements of the Federation each year.

After discussion, it was agreed to accept the suggested amendments, with an addendum that the members considered that the Federation should be responsible for the allotment of funds collected under the Orchard Registration Act. It was further decided to ask that no moneys be allotted from the fund without reference to the Federation.

Regarding the return of fruit cases, it was resolved that, subject to certain conditions, agents should either return the cases to growers or pay for them.

After a discussion, the operations of the Fruit Agents' Act, of which the Federation expressed itself in favor, it was decided to request the City Council to refuse to permit to operate at the municipal markets, any agents not registered in accordance with Act.

NEW IMPORTED FRUITS.

The N.S.W. Department of Agriculture has imported in quarantine from Florida several Grapefruit trees of the Royal and Triumph varieties. The Irrigation Commission was responsible for importing trees of the Limequat—a cross between the Lime and the Cumquat; these also come from Florida. The trees arrived in fairly good condition, and will be grown in quarantine at Pera Bore, Bourke.

Gosford.

We have just had beneficial rains amounting to over 10 inches, and as we have had no decent falls since last March, these will be very beneficial.

The outlook generally in this district for next season is not very promising. The main Citrus crop setting was almost negligible on the lowlands, although we understand that the orchards on Mangrove Mountain will have practically a normal crop. Since the rain, however, another blossom is making its appearance, and indications are that there will be a big false crop, which will in some measure mitigate against the absence of the main crop.

A majority of trees are still carrying the false crop that bloomed last February or March. Owing to the continuous dry weather, this crop did not grow, and it appears now that the three different crops will be marketed almost at the same time next season. It is, of course, too early yet for us to give any reliable estimate of what the crops will be next season, but we shall be very pleased to supply you with any information that we can obtain about April or May next.—Gosford Co-operative Citrus Packing House Ltd., P. S. Macdermott, Manager.

Tenterfield.

(1) The principal fruits grown here are Apples, Peaches and Cherries.

(2) Crop prospects, not comparable to last year. Cherries are very light; Plum and Peaches, most varieties very light; Apples, Jonathans, Granny Smith and Democrat almost a complete failure; Fanny and Scarlet Pearmain, very good crop; Pears, Williams, heavy crop; Beurre Bosc also good; most others failed.

(3) There was a fair amount of planting last season, chiefly early Cherries and late Apples. Thrips were bad in portion of the district, also Rutherglen bug, bad on Peaches and Cherries, as well as on all kinds of vegetables. Late frosts played havoc with the fruit crop.—Peter Sommerlad, Avondale, Tenterfield.

SYDNEY ROYAL SHOW.

Prize money offered in the various sections for the Sydney Royal Show next Easter totals £14,000, the largest amount offered by any show society in Australia. Entries in the agricultural section (which includes fruits), close on March 18.

The Canned Fruits Industry.

Investigation by Expert Committee Suggested.

THE POSITION of the canned fruit industry in Australia is one that calls for thoughtful attention, more especially as there is a dearth of definite data on which to base conclusions.

There are many generalisations, and among the people primarily concerned—the fruit producers—there is not yet that buoyancy and confidence so essential to the upbuilding and maintenance of the industry.

If the growers could have the vision of ultimate prosperity, much of the present dissatisfaction would disappear.

There is scope for an independent enquiry to investigate the position: some of the subjects that could profitably be examined are:—

1. Orchard:

Are the varieties at present planted suitable? Should there be an increase, and if so, what fruits and what varieties of such fruits should be planted. It is the opinion of some experienced growers, that there should be an increase of planting beyond the 10 per cent. required on all orchards, to allow for depreciation, ravages of borer, etc.

Cultural practices, irrigation, manuring, cultivation, pruning, spraying; these should be tried out on an experimental orchard to show effects of best methods, and also the bad effects of various wrong methods in all cultural practices.

Pest control; we have no successful method of controlling root borer or Rutherglen bug.

Experimental orchards, particularly in the northern irrigation areas (i.) where new settlers can learn the best methods; (ii.) new canning varieties can be tried; (iii.) new varieties for canning can be bred and tested.

Soil surveys in particular sections or orchards.

2. Canning Factories:

(a) Are our present methods uniformly satisfactory?

(b) What improvements are possible in equipment, handling, processing and prevention of waste?

(c) Cool storage.

(d) Marketing and advertising.

3. Marketing Fresh Fruit, and improvements possible.

This is a question which necessarily vitally affects the growers, and it has an important bearing on the matter of factory supplies.

It is suggested under heading (1) that many orchards are not producing to full capacity; some growers get three to four tons where they should be harvesting ten tons per acre. The subject is so full of technicalities that an investigation which produced definite pronouncements would be very welcome. This brings in the value of the experiment orchards, or plots in which scientific and continuous experiments could be conducted.

Here is one specified instance. A grower came from England and bought a young orchard. When it came into bearing he found many varieties were unsuitable. Some trees were uprooted, and the ground replanted; others were worked over. Then came a campaign against the Elberta Peach; he worked over his Elbertas to canning varieties, and is now sorry he did so, as the Elbertas pay well in the fresh fruit trade. Then Pullar's Cling was publicly discounted as a canning variety, being stated to be over-planted; his Pullars were worked over. Now he is planting Pullars again.

Under heading (2) some carefully compiled comparative data would be extremely serviceable.

On the foregoing subjects there is great diversity of opinion. Some growers urge increased plantings—particularly of Pears for canning, also Peaches—others insist on a cessation of plantings till the present crops can be profitably disposed of.

The Chairman of the State Rivers and Water Supply Commission (Mr.

Cattanach) favors increased production, because at the present time our export pack is relatively insignificant, with increased production, overhead costs will be reduced, and a steady and profitable export market will be maintained.

A well-known grower and a Director of a co-operative cannery, supports this view, and sets out the problem thus:—

Shepparton turned out last season 6½ million cans, and made a profit of £25,000 (and paid the growers £11/10/- a ton, as against £10 a ton paid by all other canneries), even the export trade is believed to have yielded a small margin of profit. Ardmona processed nearly four million cans, and made a bare profit of £750; Kyabram put up a pack of 2,750,000 cans, and made a heavy loss. Whilst granting that this loss was largely made on the overseas markets, the fact remains that the overhead cost per dozen is about 1/1 at a large factory, compared with 2/- per dozen at a smaller one, suggesting, of course, that with the increase of turnover, the overhead costs are reduced.

The application of the system of bounties on export last season has come in for a certain amount of criticism. The bounty was 1/- per dozen on Peaches and Apricots (no bounty on Pears). This bounty was on a sliding scale. Thus, if the fruit realised 7/- per dozen, the 1/- bounty was paid, if however, the price realised was 7/1 per dozen, the bounty was reduced to 11d.; price 7/2, bounty 10d., and so on.

Now, where a particularly choice line of fruit was put up, say worth 8/- per dozen, as compared with the average line at 7/-, no advantage could be gained by the canners for their enterprise; for if they sold for 8/- they got no bounty. The question was asked, why should not this choice export fruit receive the same bounty as the average export quality. There was no inducement for the canners to excel, in fact, it became a loss to attempt this ideal. The "Standard" pack of some Australian canneries has been demonstrated to be quite equal to the "Choice" pack of California.

As regards cool storage facilities attached to canneries, the equipment at Shepparton is reported to be a good investment, and cool stores are projected at other co-operative canneries.

Canneries lacking local cool storage opportunities, and having to store their fruit in Melbourne, suffered certain losses.



Fruits in canning work out as follows:—

Apricots—115 doz. cans per ton of fruit.

Peaches—100 doz. cans per ton of fruit.

Pears—75/80 doz. cans per ton of fruit.

On the cold stored Peaches, the loss would be:—

14 doz. cans per ton, at 2/- per doz., this is £1/8/- per ton, plus £2 expenses, making £3/8/- per ton on 1,000 tons—a total of £3,400—a sum which would go far to paying for the interest and depreciation on a local cool store.

There was another matter which was deemed to be unsatisfactory—the fact that in order to get the bounty, all the fruit had to go through one channel—the Home and Colonial Stores.

It is well known that this method of marketing caused much resentment in the United Kingdom, the effect of which is felt by the producers in Australia.

It is quite certain that the big national schemes of irrigation to which Australia is committed are dependent on their ultimate success on the prosperity of the primary producers, not the least important of which on the irrigation areas, are fruitgrowers.

It would seem then to be a wise and far-seeing policy to conduct the proposed investigation in order to arrive at definite conclusions, and to give the needed assurance to the men who at present have their all at stake in the industry.

The suggested enquiry Commission could include an expert to examine factory equipment, one to examine the growers' problems, and one to deal with marketing problems.

It may be stated without hesitation, however, that the industry is sound, and has a prosperous future.

The supplying of the data along the lines suggested would have the required psychological effect, and would clarify the whole position to the enlightenment of the producers and the general public.

CANNED FRUITS CONTROL BOARD.

The Canned Fruits Export Control Board held its first meeting on January 14, at the Department of Markets and Migration. The members of the Board are Mr. R. J. Boyne (Chairman), representing the Commonwealth Government; Mr. A. W. Paley, representing the proprietary canneries; and Mr. A. W. Fairley, representing the co-operative and State-controlled canneries.

According to an official report, the meeting was opened by the Minister of Markets and Migration (Mr. Paterson), who outlined the powers and functions of the Board under the Act. He also pointed out the importance to the Commonwealth of the canned fruits industry, and expressed the hope that the Board would be able to arrange for the organisation and development of the overseas markets for Australian canned fruits.

The Board then considered the date on which the control was to come into operation, the rate of levy to be imposed on exports, the terms and conditions under which licences were to be issued to exporters, the question of trade publicity abroad, and other matters. Recommendations on these questions will be made to the Minister.

FRUIT CANNING IN ENGLAND.

Considerable interest has recently been directed to the possibilities of extending and developing the canning and bottling of fruit and vegetables in this country, and growers, canners and others interested have combined to form the National Food Canning Council, says the "Horticultural Trade Journal" (England). In order to stimulate this movement, arrangements have been made for experiments in the canning of Apples on a commercial scale to be carried out by the Fruit and Vegetable Preservation Research Station of the University of Bristol, and with financial assistance from the Ministry an up-to-date Apple canning unit has been purchased. It is desirable that these experiments should be conducted in a commercial Apple-growing district under conditions approximating as nearly as possible to ordinary commercial conditions, and, accordingly, by arrangement with the British Fruit Packing Company, the plant has been installed at that Company's factory at East Farleigh, near Maidstone, Kent. Apples for the purpose of the experiments will be provided by the Company, which is also bearing all expenses other than those involved in

the purchase and installation of the plant. The experiments will be under the supervision of the Director of the Research Station.

On the same subject the London "Daily Chronicle" stated recently:—Mr. Appleyard, the head of the Fruit Preservation Research Department at Chipping Campden, informed a press representative that imports of canned Apples from America amount to £150,000 a year. There is a continually growing demand for them from shippers and restaurant and hotel proprietors, who buy them to save the trouble of paring and coring Apples.

In all orchards, Mr. Appleyard added, there was a certain amount of fruit which could not be sent to market as of high grade, and the object of the demonstration was to show growers in this country what was done in America to utilise fruit which otherwise would probably be wasted.

The machinery exhibited all the characteristics of American labor-saving devices. Apples were pared, sliced, partially cooked, and put in hermetically sealed tins practically without being touched by hand.

We import about £10,000,000 of preserved fruit every year, and, according to Mr. Appleyard, £7,000,000 of this can be produced at home.

QUEENSLAND PINEAPPLES.

Picking for the Cannery.

THE main crop of smooth-leaf Pineapples will be ready for canning, and great care must be taken to see that the fruit is sent from the plantation to the cannery with the least possible delay and in the best possible condition. The only way in which the canners can build up a reputation for Queensland canned Pineapples is for them to turn out nothing but a high-class article. To do this they must have good fruit, fresh, and in the best of condition.

The fruit should be about half-colored, the flesh yellowish, not white, of good flavor, and the juice high in sugar content. Over-ripe fruit and under-ripe fruit are unfit for canning, as the former has lost its flavor and has become "winey," while the latter is deficient in color, flavor, and sugar content.

For the 30 or 32 oz. can, fruit of not less than 5 in. in diameter is required, in order that the slices will fit the can; but smaller fruit, that must not be less than 4 in., or, better still, 4½ in. in diameter, and cylindrical, not tapering, can be used for the 20-22 oz. can.

PATENTS
GEORGE A. U'REN

PATENT ATTORNEY

"HEPTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

Australian Canned Fruit Pack.

1922-23 to 1925-26 (Doz. 30 oz. tins).

	1922-23	1923-24	1924-25	1925-26
Apricots	245,244	281,194	413,150	271,350
Pears	274,772	510,345	545,056	416,950
Freestone Peaches	93,488	135,407	187,798	39,345
Clingstone Peaches	955,583	980,923	1,264,713	1,517,998
	1,569,087	1,907,869	2,410,717	2,245,643

1925-1926 Season.

Export of Canned Fruits to September 25, 1926.

In Dozens—All Sizes Converted to 30 oz.

Destination.	Apricots.	Peaches.	Pears.	Pines.	Total.
United Kingdom	25,799	306,230	48,805	—	380,834
New Zealand	23,760	51,596	7,133	—	82,489
East	3,534	7,643	6,318	—	17,495
Miscellaneous	4,776	11,933	784	945	18,438
Total	57,869	377,402	63,040	945	499,256

In addition to the above, eight tins (each four gallons) of Passion Fruit pulp were exported to Dunedin, from Queensland.

(Supplied by James L. Moore, Secretary, Australian Fruit Cannery's Association.)

SHEPPARTON CANNERY.

At the annual meeting of shareholders of the Shepparton Fruit Preserving Co. Ltd., Mr. A. W. Fairley, Chairman of Directors, said that the profit and loss account revealed a net profit for 13 months, of £24,445/1/2 on a turnover of £318,008, the latter figure being a record. To establish a reserve fund £20,000 of the profits has been set aside, and £4,000 had been reserved for income tax, so that with last year's credit of £4,980/10/10, a credit of £5,425/12/- was carried forward. The assets had been written down to £6,668/8/5 for depreciation, the total for this item since the inception of the company amounting to no less than £30,787.

"When it is considered," he continued, "that we have been able to make this profit, and at the same time have lowered the price of our goods to the consumer in Australia on an average of 9d. per dozen, and have had to accept considerably lower prices for fruits exported, we think that this year's result is the best yet achieved by the company."

The retiring Directors, Messrs. Z. Akers and T. H. Ray, were re-elected unopposed, as was also the Auditor, Mr. John Stubbs. A dividend of 7½ per cent. on the paid-up capital was declared unanimously.

MARKET FOR CANNED AND BOTTLED FRUIT AND JAMS AND JELLIES IN INDIA.

IMPORTS into India of canned and bottled fruit are steadily increasing. During the year 1921-22 the amount imported totalled

10,760 cwts., increasing to 17,481 cwts. in 1924-25, and to no less than 21,553 cwts. in the fiscal year ending March 31, 1926, states the Department of Markets and Migration. The imports during the four months ending July of this year amounted to 6,770 cwts., indicating that the demand is being maintained. Detailed figures are available only up to the end of the fiscal year 1924-25; from this it would appear that Australia has maintained her trade in this commodity, both in percentage and volume. During the year 1920-21 we supplied 2,230 cwts., or a little over 14 per cent. of India's requirements, but importations from Australia have steadily decreased until in 1924-25 our proportion of the trade amounted to only 872 cwts. (barely 5 per cent.) notwithstanding the fact that India's total purchases had steadily increased. The United States maintains her hold on this market; purchases from that source amounting to 7,427 cwts. in 1920-21 (about 48 per cent.) and 8,618 cwts. in 1924-25 (about 49 per cent.). Other suppliers are, United Kingdom, Hongkong and Straits Settlements (Pineapples).

The growing popularity of canned foods in other countries of the world is beginning to have its effect upon India, and a continued consumption of such food is looked for. The market in India is at present limited to the European, Anglo-Indian and wealthier classes of Indians, whose total numbers probably do not exceed one million. The great mass of the population of India is too poor to be able to purchase imported canned goods.

There is also a considerable market among the European population in India for jams and jellies of all kinds. The consumption of these foods has not shown the same increase as that of canned fruits, nevertheless, 14,900 cwts. were imported during the fiscal year 1925-26 compared with 16,858 cwts. the previous year. Of the latter amount Australia supplied 7,058 cwts., or about 42 per cent. Though our trade in these lines is steadily increasing, our exports during the year 1924-25 were less by 3,556 cwts. than the amount shipped during the year 1920-21.

The United Kingdom has steadily increased her trade with India in jams and jellies, and at the moment is the principal supplier and takes care of that portion of the market not supplied by Australia.

SHIPPING FRUIT IN BRINE.

American Trade Commissioner Livengood at Rome, Italy, in a report on the packing of Cherries and other fruits in brine, states that while Peaches, Pears, Apricots, and other Italian fruits have to a slight extent been packed in brine, this practice has not been followed on a commercial basis. Cherries, however, are packed in brine, as well as preserved in syrup, and so prepared form an item of export of some importance. It is stated that from 100,000 to 150,000 barrels of Cherries packed in brine are annually exported from Italy, the chief countries of destination being England, France, and the United States. England probably takes more prepared Cherries from Italy than any other country, and besides receiving a large portion of the Cherries in brine, imports from Italy from 50,000 to 70,000 cases of Cherries preserved in syrup. The Cherries in brine are made use of in the importing countries for further manufacture and are especially demanded by chocolate and confectionery factories.

Cherries in brine are exported from Italy to the United States in casks. The solution contains sulphurous acid and kitchen salt in water, the brine containing about 7-10 per cent. of sulphur dioxide and 1½ per cent. of salt. Before being placed in the casks the fresh Cherries are placed in wooden baskets in a closed room where sulphur is burned for twelve hours, then they are packed in casks and the brine is added.—"Canning Age."

Western Australia.

Annual Report :: District Notes

GROWTH OF THE FRUIT INDUSTRY.

Annual Report for 1925-26.

THE ANNUAL REPORT of the Officer-in-charge Fruit Industry (now Superintendent of Horticulture, Mr. G. W. Wickens) for Western Australia for the year ended June 30, 1926, is as follows:—

The fruitgrowers of Western Australia, in common with those of the Eastern States, suffered considerable loss during the year under review owing to the strike in England occurring at the time when Australian fruits were arriving. Apples, Pears, Grapes and Oranges are the principal fruits forwarded from this State to Great Britain, and although the strike was over before any Oranges were ready for shipment, these did not escape the strike effects because Mediterranean Oranges, which under normal conditions would have been off the market before ours arrived, were held back and sold at prices that prevented our growers from shipping. Apples, Pears and Grapes arrived at London while the strike was in progress and with dislocation of trade, difficulty of transport and the long period from time of gathering to date of sale causing the softer fruits to become over-ripe, many very low returns were received. I have not seen account sales in connection with fruit on all the boats which loaded here, and so far as I can judge at present, though some of the Apples—which fruit comprised the great bulk of our consignments—sold as low as 6/- per case, the average London price for the season will work out at 11/- to 12/- per case. The costs from grower's siding to London were about 7/- per case, which does not allow much for producing the fruit after case, wrapping paper, nails and packing have been paid for. Fortunately for Western Australia a fair proportion of the Apples was sold at really good prices f.o.r. growers' sidings, and I think a majority of the growers sold a portion of their crop in this way, so the position is not nearly so bad as it otherwise would have been.

The fruits exported included Apples, 298,379 cases; Grapes, 36,576 cases; Pears, 21,222½ cases; Oranges, 12,176½ cases; Peaches, 254; Nectarines, 67; Plums, 256; Lemons, 314; Tomatoes, 27; the stone fruits, Lemons and Tomatoes, as well as a large propor-

tion of the Oranges going to Singapore and Java; Quinces, 50½ cases; and 23 cases of Passion Fruit, to England, as well as smaller quantities of Loquats, Apricots, Cape Gooseberries, and Guavas, giving a total of 369,359½ cases of fruit exported. Other markets tried included India, Egypt, Germany, South Africa, and the Straits Settlements, besides the regular exports to Great Britain, and it is satisfactory to note that each year an increase takes place in the quantity sent to those markets which lie comparatively close to us—Singapore, Sourabaya, Colombo, etc.

I have been interested to note that after many years of retrogression there is evidence from the planting which is actually taking place this season, and preparations which are being made for next year's operations, that the long downward drift in area under fruit (exclusive of vines) which has continued regularly for a number of years has been stopped, and I expect next year to be able to record an increase. To show how seriously the area has been reduced I may mention that in 1916-17 the total acreage under fruit, exclusive of Grape vines, was 21,687, and in 1924-25, only eight years later, this had declined to 18,525. Strangely enough, 90 per cent. of the decrease has taken place in the area devoted to Apples, which, unlike the softer fruits, are not dependent on the local market but can be, and are, shipped successfully to many distant places. I know that a large proportion of the decrease has occurred through the taking out of orchards which in the early days of

the fruit industry, when prices were booming, were planted in most unsuitable places; and not only were unsuitable places chosen, but unsuitable varieties were planted in places which were suitable, and these also have had to be destroyed or worked over to better sorts. In the planting taking place this year it is noticeable that Apple trees figure largely: as an instance I may quote the fact that already this season 55,000 young Apple trees have been imported at Fremantle and 10,000 at Albany, compared with a total last season of 24,000, and these, of course, are additional to the trees grown by local nurserymen. There has also been a lessening in area in all the main kinds of fruits produced, with the exception of Oranges, Lemons and Grapes, which have increased by 485 acres, 216 acres, and 2,300 acres respectively.

In the evidence I have noted of renewed faith and reviving interest in the industry, I sincerely hope that intending planters will seek advice and assistance from officers of the Fruit Branch of this Department in choosing kinds and varieties suitable to the various districts, and also in the selection of sites on individual properties. There are Field Officers supervising the fruit industry in all the principal districts, whose intimate knowledge of local conditions is invaluable in this connection. This service is not only free of direct expense to the orchardist, but is rendered with pleasure, and, if availed of, will prevent many costly mistakes from occurring.

Particulars of kinds of fruit, exclusive of Grapes which are shown in the Viticulturist's report, grown in Western Australia, and production for season 1924-25 (latest figures available) are as follow:—

Kind of Fruit.	Orchards.		Total Area.	Pro-duction.	Value.
	Bearing. Acres.	Area non-bearing. Acres.			
Apricots	534	197	731	37,899	25,858
Apples	7,628	1,889	9,517	656,881	322,966
Bananas and Plantains . .	5	5	10	395	593
Figs	356	96	452	41,208	13,006
Lemons	441	174	615	58,421	24,768
Nectarines	162	47	209	9,524	6,191
Oranges	2,527	856	3,383	222,979	146,545
Peaches	735	201	936	46,855	31,774
Pears	1,037	234	1,271	88,858	29,249
Plums	690	226	916	49,810	29,056
Quinces	90	19	109	9,483	2,963
Strawberries	34	—	34	44,277 qts.	3,109
Other Small Fruits, N.E.I.	50	—	50	—	611
All other Fruits, N.E.I. . .	182	110	292	—	5,387
Total	14,471	4,054	18,525	1,222,313 bus.	642,076
				44,277 qts.	

Fruitgrowers generally throughout the State will remember the season of 1925-26 as one of the worst for insect pests that we have experienced over a period of many years. Scales, aphides, bugs, beetles and fruit flies appeared to be in a peak condition of productivity, and in addition to these which are always with us to a more or less extent, we had the unwelcome visitation of the worst outbreak of codlin moth that has ever occurred in Western Australia. So far as I can judge from the evidence available the pest has been introduced in the larval stage, hibernating in packages of goods received from the Eastern States. This is a source of infection to which we are liable and which is extremely difficult to guard against. In the past complete success has attended our efforts to wipe out the pest when it succeeded in gaining entry, and I am convinced we will attain the same result on this occasion, but when I mention that there were 97 small home gardens and semi-commercial orchards found to be infested at Collie some idea is gained of the work lying in front of us.

Imported trees, plants, fruits, etc., which have been inspected at the ports of Fremantle and Albany, and at Kalgoorlie, under "The Plant Diseases Act, 1914" (State) and "Quarantine Act" (Federal) totalled 191,135, of which 111 were destroyed.

Importations of fresh fruit inspected under "The Plant Diseases Act, 1914," totalled 4,288 packages for the year, comprising mainly Bananas, Cherries, Plums, Pineapples and Gooseberries, as well as 1,415 bags of Nuts; 30,432 crates of Bananas and five cases of Mangoes were inspected under "The Quarantine Act."

WESTERN AUSTRALIA.

Seasonal Work.

(See also p. 76.)

GATHERING and marketing of stone fruits will still be in full swing during this month, and early varieties of Pears and Apples will also claim attention. The very early Pears, such as Citron des Carmes and Jargonelle, are allowed to ripen on the trees, and are fit to gather in December and January, but these are poor in quality, and are not recommended for commercial orchards. Practically all the best Pears must be gathered before ripening, and allowed to mellow in storage before they attain the peak condition of flavor and texture. In a less degree this applies also to Apples, but there

are some good varieties of the latter fruit, which are excellent for dessert purposes when freshly pulled from the trees; Gravenstein and Jonathan being two good examples. The ease with which the stem of the fruit separates from the spur to which it is attached is a good guide as to the fitness of the fruit for gathering.

Arrangements are being made at time of writing by the Fruit Shippers' Committee for shipping space sufficient to take a few thousand cases of Williams (Bartlett) Pears to London in the early part of this month. A similar consignment forwarded last season turned out quite successful, and it is hoped the trade may be built up to larger proportions, for the variety mentioned is more largely planted in this State than any other, and an outside payable market would be a great boon to growers.

Cultivation and pest control still require careful attention.—Geo. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture."

THE ALBANY COOL STORES.

A New Fruitgrowing District.

Evidence of the suitability of the Albany fruitgrowing district for producing Apples which, under efficient storage conditions, will retain soundness and appearance, is apparent in samples of the Granny Smith and Dunn's Seedlings recently brought under notice (says the Albany "Advertiser"). These Apples have been held in the Albany Cool Stores since May 13 last. The Granny Smith is a particularly difficult Apple to store for longer than three or four months, owing to its tendency to scald, and special greased wrapping paper is recommended to ensure longer keeping without deterioration. The fact, therefore, that the Granny Smith has for many years been stored in the Albany works under ordinary conditions for much longer periods, with consistently satisfactory results, suggests that this variety can, with confidence, be extended in local orchards. The Dunn is a well-known Apple in demand locally and abroad, and can be recommended to orchardists when increasing their areas. The facility of a well-equipped store in Albany is of greater value to the district than is generally recognised, which should be a source of satisfaction to the Government, which qualified their initial outlay by embodying efficiency in the buildings and plant.

W.A. DRIED FRUITS BOARD.

The Minister for Agriculture (Mr. M. F. Troy) held a conference early in January with representatives of the dried fruits industry to receive suggestions from them regarding the appointment of the first Dried Fruits Advisory Board which the new Dried Fruits Act provides shall be nominated by the Minister and shall consist of five representatives of the growers and remain in office till December 31 next. After that the registered dried fruit growers will elect their own Board. Mr. Troy said the personnel of the Board would be announced at an early date. The Board will be run by the growers themselves who will provide the cost of fees for the members of the Board and the cost of administration by a levy of not more than one-sixteenth of a penny on every pound weight of fruit produced by the grower in the preceding year. The Minister, however, has the important power to veto the decisions of the Board.

PROFITABLE CHERRIES.

For some reason which has not yet been fully explained, Cherries do not fruit as freely in Western Australia as in parts of the Eastern States. Considerable quantities are imported from South Australia, and prices are usually high.

But a Bridgetown grower scored recently. On Christmas Eve, Mr. W. J. Cowen received a wire from his salesman in Perth, stating that his Cherries had sold at the magnificent and extraordinary price of 46/- per quarter case. The consignment comprised seven quarter cases, and in each case was approximately 15 lbs. of Cherries.

Nobody, says President Coolidge, is so poor that he cannot afford to be thrifty. Nobody is so rich that he does not need to be thrifty. The margin between success and failure, between a respectable place in life and oblivion, is very narrow; it is measured by a single word—thrift. The man who saves is the man who will win.



(GIBBS BRIGHT & CO.,—See Page vi.)



Dried Fruit Department

Drying Apricots Whole

(By W. W. Cooke, Orchardist, in the "Agricultural Gazette," of N.S.W.)

THE time required to "pit" Apricots, i.e., to cut in two and remove the stone, is considerable, especially when expert labour is not available, and the fruit is of medium or small size. The Department, therefore, decided to conduct experiments to find out if Apricots could be dried whole satisfactorily, and if so, what treatment would produce dried fruit of the best quality with the least labour, and in the shortest time. The following methods were tried:—

- No. 1—Dipping the fruit for various times in solutions of caustic soda of various strengths, and then sulphuring for the usual time.
- No. 2—As in No. 1, but with the stones removed with a special knife, the fruit still remaining whole.
- No. 3—Not dipped, but sprinkled with water, and then sulphured for the usual time.
- No. 4—Not dipped, but stones removed as in No. 2, and sulphured.
- No. 5—Sulphured, but not otherwise treated.

In experiment No. 1 the following dipping periods and strengths of caustic soda were tested:—

- (a) For 10 seconds in solution composed of 1 lb. of caustic soda to 30 gallons of water, boiling.
- (b) For 5 seconds in solution as in (a).
- (c) For 8 seconds in solution composed of 2 lb. caustic soda in 30 gallons water, boiling.
- (d) For 5 seconds in solution as in (c).
- (e) For 3 seconds in solution as in (c).

These experiments have been conducted for several years, so that the results might be fairly reliable.

It was soon seen that methods Nos. 2 and 4 (drying the fruit whole with stones removed) did not show any advantage in time saved over the ordinary process of pitting, as it took quite as long to remove the pits with

the special knife as to cut the fruit in two in the usual way, and remove the pits, while additional time was required with No. 2 for dipping. Though No. 2 yielded a far superior sample to No. 4, both were inferior to a fair average sample of pitted Apricots.

Nos. 3 and 5 were more unsatisfactory still, the fruit being of a dark and unattractive colour, while the time required to dry these lots was three times as long as with method No. 1—a matter of considerable importance when quantities of fruit have to be treated, more trays being required, and greater risks incurred from changes in the weather.

In the case of method No. 1 (fruit dipped and sulphured) all the lots were more or less satisfactory; the dried Apricots had a good colour, and the time occupied in drying was not unreasonably long, the average over the period for which the experiment has been conducted being six days, as compared with eighteen days for the undipped fruit. There was a slight difference in the results obtained in the various lots in No. 1, the treatment that gave the best results one year not being quite as good as the next, probably due to the state of ripeness of the fruit and weather conditions, etc., but lots (b), (d), and (e) gave the best average results, the quick dip evidently being the better method. The average amount of fresh fruit required to make one pound of dried fruit by method No. 1 over the period of the experiment was 4½ lb.

In conclusion, it may be stated that dipping the whole Apricots in caustic solution, as tried in (b), (d), or (e), and sulphuring, will yield dried fruit of good colour and appearance, and, provided ready sale can be found for whole Apricots, this method is worthy of serious consideration. Fruit treated in this way has a distinct Almond flavour, derived from the pit, which is absent in ordinary dried Apricots. Before drying any great quantity of Apricots whole, it would be advisable for growers first to ascertain the probable demand and price from the Dried Fruits Association.

The Dried Fruit Pests

The Growers' Part in Their Control.

(By A. V. Lyon, M.Sc.)

REPORTS from overseas show that dried fruit pests are seriously affecting the quality of the fruit, and reducing the sales. Cases have come under notice where large parcels of Sultanias and Currants have been sold, and the buyer has refused to accept it on account of the presence of the grub. This represents so serious a menace to our industry that every effort must be made to combat the pests.

The grower, the packer, and the transport and storage authorities are all concerned. The condition of the packing houses and the storehouses are covered by regulations which are administered by the Customs Department. The purpose of this article is to set out the work of the grower in suppressing the pest.

One fact should be clearly understood—in the summer time, except for brief periods, the pest must have food in order to exist. It is impossible for a moth to emerge and attack the new fruit, unless a harbor has been provided for the feeding and developing of the grub.

The work of the grower then is straightforward—destroy all useless fruit on the premises, and treat all good fruit on the assumption that it may be affected. Remember the pests will thrive in all dried fruits, in split stones of Apricots and Peaches, and in grain products.

It is necessary that this work should be completed in January, in order that the few moths which have escaped by crawling away to pupate, can find no fruit or fruit scraps on which to lay their eggs.

The pest has been found on the broken fruit on hessians, in the corners and crevices of sweat boxes, in the household supplies, and in bran and pollard. The work of the grower in controlling the pest is set out as follows:—

1. Clear the whole of last season's fruit from the premises. If fruit has been left on the rack over the winter, be careful to get every berry. Racks cleared in the previous year are not a menace, where the birds clean up the individual berries left in the vicinity of the racks.
2. Destroy, preferably by burning, all useless fruit and fresh debris.
3. Burn useless hessians to which fruit is adhering.
4. Sweat boxes, drying trays, and second hand hessians to which broken fruit is sticking should be immersed for not less than five minutes in water at a temperature of not less than 150 Fahr. The sweat boxes may be cleaned with a steam jet in lieu of hot water.
5. Treat the household supplies of dried fruit by dipping in boiling water and re-drying.
6. Examine all supplies of bran and pollard, and if affected dispose of it at once.
7. Burn Apricot and Peach stones.

Conclusion.

It is stressed that this work be completed in January. There are at present two very bad practices—the bringing of sweat boxes uncleared since the previous year, from the factory at harvest time; and the preservation of fruit of the previous year without treatment. These recommendations do not involve a lot of work. Their value is undoubted, and the thoroughness with which the work is done will be the measure of success in controlling the pest.

WHEN HARVESTING PRUNES.

There are three intervals in the ripening of Prunes. The first Prunes that ripen do not as a rule contain the same amount of sugar as those that ripen in the second and third stages. As Prunes that are deficient in sugar (and this, after all, is the main preserving factor) are subject to mould and also to an incrustation of sugar on the surface, which (states the N.S.W. Department of Agriculture) is sometimes mistaken by consumers for mould, to the depreciation of their value, it is recommended that the Prunes that ripen first be kept separate from the main crop and disposed of immediately they are ready for consumption. This first crop or first ripening, invariably falls, if it is allowed to do so, and as a matter of practice it should be allowed to fall, and should never be picked. A large percentage of the second crop or stage will also fall when sufficiently ripe, but as a rule the third crop or fruit of the third ripening stage will require to be picked, as they seem to adhere very tightly to the branches, even after they are fully ripe.

In all cases it is most important that the fruit should be allowed to attain its full percentage of sugar before drying, and all undeveloped fruit should be discarded. As the fruit is permitted to drop to the ground, precautions should be taken by the grower to see that the surface is loose and free from clods; in fact, the careful grower will take the precaution of raking around the base

of the tree and outwards for a sufficient distance to catch any fruit that may drop from the spreading branches.

FRESH PRUNE EXPORT.

Market in California.

It may be of interest to deciduous growers, particularly those who contemplate exporting fresh Prunes in the coming season, to know that there has been a very steady and consistent trade for this article from California during the past few weeks. The package consists of a box containing four punnets, each of which holds 5 lbs. net fruit. The fruit is in two layers with a sheet of strong grease-proof paper in between. The fruit is of large size and would average about twelve to the pound, and has made from 8/- to 10/- per case of 20 lbs. It is a popular line with retailers, where it is selling readily at from 8d. to 10d. per lb.—“South African Fruit Exporter.”

UNITED KINGDOM RAISIN IMPORTS.

Imports of Raisins into the United Kingdom for the nine months ended September 30, amounted to 585,754 cwt., compared with 648,841 cwt. for the corresponding period of last year, and 626,057 in 1924.

The United States increased her shipments from 109,589 cwt. in 1924 to 183,038 in 1925, and to 191,337 in 1926. South Africa's shipments fell from 46,289 cwt. in 1924 to 32,002 cwt. in 1925, and to 31,922 in 1926. Imports from Greece declined from 20,165 cwt. in 1924 to 4,970 in 1925, but rose to 9,478 cwt. in 1926. Shipments from Smyrna fell from 90,026 cwt. in 1924 to 41,464 in 1925, but recovered to 79,309 this year. Spain increased her shipments this year to 51,171 cwt., compared with 16,716 cwt. in the previous year, and 43,920 in 1924. British purchases from Australia for the first nine months of this year amounted to 214,073 cwt., compared with 359,013 in 1925, and with 295,852 in 1924. Notwithstanding this sharp decline, Australia is the chief supplier to the United Kingdom market so far this year, shipments amounting to over 36 per cent. of the total imports.

**Sell your Dried Fruit in the
Best Market**

J. YOUNGER

The Independent Dried Fruit Merchant

22 Market Street - - - Melbourne

Will buy your fruit outright, or will export on your behalf at a total Export Cost of £12/10/- average, and a Cash advance of two-thirds London Price.

Commonwealth quota purchased for Cash at Highest Current Rates. No commission. Bank reference and all particulars on application.

BUYER OF ALL EVAPORATED FRUITS

CONTROL BOARD NOMINATIONS.

Nominations for the election of growers' representatives on the Commonwealth Dried Fruits Control Board include the following:—

Victoria, New South Wales, and South Australia (three to be elected).—Messrs. H. D. Howie, F. A. James, A. L. Johnstone, and J. J. Scouler.

Western Australia (one to be elected).—Messrs. H. D. Andrew, G. A. Coupland, J. McL. Neary, J. Thomas, and A. Yeates.

NEW SEASON'S DRIED FRUITS PRICES.

Increases for Apricots and Peaches.

Prices of new season's dried Apricots, Peaches, Nectarines, and Pears have been announced by the Australian Dried Fruits Association. Com-

The election will be held on February 9. The Government will shortly appoint its own representatives to the Board, and two commercial representatives.

The 1924 Advances.

The Department of Markets and Migration recently advised that growers of dried fruits would not be required to repay the 1924 advances, which totalled £210,000, until they have themselves received the cost of production, according to a scale worked out for the various yields.

pared with opening prices of last year, Apricots have been advanced by 1½d. a lb., but in May the quotation was increased by ½d. a lb. Peaches and Nectarines are up 1d. a lb., and three-crown and two-crown Pears ½d. a lb., other grades being unchanged. Quotations for single box lots compare with those of previous seasons as follow:—

	1923	1924	1925	1926	1927
Apricots—					
Four-crown	1/7	1/3	1/4	1/4	1/5½
Three-crown	1/6	1/2	1/3	1/3	1/4½
Two-crown	1/5	1/1	1/1	1/2	1/3½
One-crown	1/3	0/9	0/10	0/10	0/11½
Slabs	1/4	0/10	0/11	0/11	1/0½
Peaches—					
Four-crown	1/2	1/-	1/-	1/1	1/2
Three-crown	1/1	1/11	0/11	1/-	1/1
Two-crown	1/-	0/10	0/10	0/11	1/-
One-crown	0/10	0/8	0/8	0/8	0/9
Nectarines—					
Four-crown	1/4	1/1	1/1	1/1	1/2
Three-crown	1/3	1/-	1/-	1/-	1/1
Two-crown	1/2	0/11	0/11	0/11	1/-
One-crown	1/-	0/9	0/9	0/9	0/10
Pears, 28 lb. boxes—					
Four-crown	1/4	1/2	1/3	1/3	1/3
Three-crown	1/3	1/1	1/1½	1/1½	1/2
Two-crown	1/1	1/-	1/0½	1/0½	1/1

Packed in 14 lb. boxes, the Association prices for Pears are:—Four-crown, 1/3½; three-crown, 1/2½; two-crown, 1/1½; and in 7 lb. boxes: four-crown, 1/4; three-crown, 1/3; two-

crown, 1/2 a lb. The prices mentioned are for Adelaide, Melbourne, Sydney, Newcastle, and producing centres, plus the usual additions to prices for shipment to other ports.

DRIED FRUITS FOR CANADA.

The Victorian Treasurer stated, when presenting the Budget to Parliament, that it was expected that £60,000 of Australian dried fruits would be exported to Canada this year.

POPULARISING AUSTRALIAN DRIED FRUITS.

An Empire Cake.

Recently the Director of Australian Publicity in London (Mr. A. E. Hyland) forwarded to the Minister

for Markets and Migration (Mr. Paterson) a sample cake which had been manufactured by Messrs. Turner Bros., of Nottingham, England, from Australian dried fruits and Empire ingredients. The cake is on sale in Great Britain at 1/3 a lb. The idea originated out of the Australian trade publicity campaign directed by Mr. Hyland, who said that the cake was having a tremendous sale. It was in demand all over the Midlands, and even as far as the south of Wales. Other cake manufacturers were taking up a similar line.

On December 22, the Secretary of the Markets and Migration Depart-

ment distributed the cake to Federal Ministers, officials and others, who expressed themselves pleased with its quality.

A PINEAPPLE BY-PRODUCT.

Shawls From Core Fibre.

All of us, no doubt, enjoy Pineapple, though none of us like to negotiate the cores thereof, and, as a consequence, most of the large Pineapple-canning industries have installed coring squads for removing and discarding the bothering cores, writes Felix J. Koch, in the "Fruit Trades Journal" (England).

Now, though, out of Cuba comes a brand-new industry, which has to do with working the fibres from these corings to cloth, and this, then—while the goods are still a novelty—to shawls, scarfs, and other gift and art wares of the sort.

Objects of the material, it is stressed by the producers, are so strong of texture that they can hardly be torn apart beneath the strongest and most deliberate pull. Naturally, they wear like the proverbial iron, and wash like the conventional "rag." In addition, things made from the cloth are guaranteed absolutely not to fade.

Done at the start now into thin and lacy clothstuffs, most of the objects of the Pineapple core are hand-painted throughout. Designs are varied sufficiently so that any one retailer need not carry over two or three specimens of a type. Thus duplication among customers, who might meet at some social gathering, is reduced to nil.

A bright red shawl, for one, another of blue, with design of lavender, are especial favorites already here. Then a pure white shawl is particularly enticing, its lacy nature allowing of its being used as a scarf as well. Another variant in the new ware is a shawl of bright green, another is a milk-white, with deep blue flower pattern, another is lavender, in geometrical designs of darker blue. A tan design, in blocks, is popular also. All shawls are in light colors, to emphasise the dainty fabric of the ware.

Imported into the American Southland, shawls are selling at 9½ dollars apiece.

KUNDE & SOHN

Genuine

BUDDING KNIVES

FOR SALE

Price, 4/6, each, post free

OSCAR NOBELIUS

Kia Ora Nurseries, Narre Warren, Vic.

Victoria

Association Meetings

News and Notes

CHEERFUL APPLE GROWERS.

A Prosperous Industry.

At a meeting of the Apple and Pear Growers' Association of Victoria, held on January 20, at Melbourne, the delegate from Red Hill (Mr. Murray Jones), asked why Apple growers seemed difficult to "organise." The reason, he said, was either (1) that the growers were prospering under present conditions, or (2) that they lacked intelligence. He would not admit the latter. Apple growers, he believed, speaking generally, were successful men.

The Chairman, Mr. Lang, supported Mr. Murray Jones, and said he was an optimist regarding the future of the Apple growing industry.

APPLE AND PEAR GROWERS' ASSOCIATION.

At a meeting of the Apple and Pear Growers' Association of Victoria, held on January 20, Mr. J. H. Lang presiding, it was decided to seek more extended terms for repayment of loans to thrip pest sufferers; appreciation of the Government's action in granting prompt relief was expressed. The action of the Bridgetown (W.A.) Fruitgrowers' Association, in writing, expressing sympathy, was esteemed.

As several Associations questioned the election of the Executive, it was decided to call a meeting of delegates from all Associations on February 15.

To assist inspectors in getting convictions for neglect of spraying, it was suggested that dates be specified before which sprayings must be carried out, and it was finally decided to seek definite information as to powers possessed under the present Act.

A letter from the Committee of Direction of Fruit Marketing, Brisbane, was read, requesting to be appointed as the receiver in Brisbane of Victorian fruit, in place of Mr. D. G. Wills, whose services were criticised. It was decided to refer the letter to the affiliated Associations.

Letters from the Committee of Direction, suggesting amendments to the Farm Produce Agents' Act, and the reply of the Victorian Department of Agriculture, stating the present powers, and proposed amendments were noted.

[Report much curtailed.—Ed. F.W.]

VICTORIAN FRUIT COUNCIL.

A meeting of the Victorian Fruit Council was held on January 20, at Melbourne, Mr. J. H. Lang presiding. A protest was entered against the action of the Minister of Customs in reducing the duty on Tomato pulp from £28 to £2 per ton. A letter from the Council for Scientific and Industrial Research, stating that a highly-trained entomologist was being appointed to study insect pest problems affecting orchards, was received with appreciation.

It was decided to contest the claim before the Tariff Board for increased duty on softwood cases in shooks. Mr. W. Lipscombe was appointed to watch the growers' interests.

The Secretary reported that in response to a request from the Northern Victoria Fruitgrowers Association, arrangements were in hand for broadcasting market prices.

It was decided to protest against the new regulation, making it compulsory to stencil factory fruit "For Factory Use Only." Choice Peaches for canning were sent by truckloads, stencilling would unnecessarily increase costs by 1/6 per ton.

Following the statement by the Prime Minister, that it was technically possible to reduce the journey to England by two weeks, it was decided to pursue further inquiries.

It was decided to hold the Annual Conference in May, at a time and place to be fixed.

[Report regretfully condensed.—Ed. F.W.]

VICTORIA'S FRUIT FAILURE.

Was Thrip to Blame?

Thoughtful growers in many districts are inclined to place less blame on the Thrip scourge than previously. The opinion is freely expressed that the drought of 1925 weakened the fruit buds for the 1926 crop; also in many districts proper provision has not been made for interpollinating varieties, with the result that when the Thrip pest really did come, it had weakened blossoms on which to operate.

It is thought that even apart from the Thrip plague, the Apple crop would have been much reduced in

many districts because of the seasonal conditions above mentioned. This, however, hardly applies to such a district as Harcourt, where the irrigation system ensures against drought.

WOORINEN FRUITGROWERS' CO-OP. CO. LTD.

At the fourth annual meeting, held on October 29, the report and balance sheet were adopted. The Chairman (Mr. H. E. Palmer) said the year had been a successful one, a net profit of £1,149/9/1 being shown. In addition, £843 had been distributed to growers in bonus shares. During the season 1,214 tons had been handled, packing charges not exceeding £5/10/- per ton. They had also handled supplementarily 169 tons of dried and 252 tons of fresh fruit for the distillery. The dehydrator had processed and packed approximately 220 tons.

Paid-up capital was increased to £5,811/9/6, 431 new shares being allotted. New machinery had been erected, and gave excellent results. For the coming season they expected the new packing shed to be finished, adding to efficiency and economy in handling the pack. It was estimated there would be 1,500 tons for the coming season. For 1925 the company handled fruit for growers which netted them as follows:—Three-crown Sultanas, £50/14/-; two-crown, £46/14/-; one-crown, £42/14/-; cold dipped fruit, £55/4/-. Advances for 1927 would be Sultanas, £20; Currants, £12; Lexias, £12, at the shed door, and it was expected a further £5 per ton would be made on Sultanas during May.

Messrs. H. W. Palmer and D. A. Cockcroft, were re-appointed directors. It was decided to pay a dividend of 7 per cent. on all paid-up capital.

Beware of the man who thrives on the disaffection of his fellows. Some men create trouble and then look for jobs fomenting strife between employer and employee and between producer and distributor. There is room for all in this wide world who can render efficient service, but the strife-monger should be warned off to pursue honest labor.

APPRECIATION.

Enclosed please find my subscription towards the "Fruit World." Kindly keep sending it along, as I find it most informative, up-to-date, and extremely useful to fruitgrowers. —F. W. Vear, Healesville, Vic.

Cool Storage In Australasia

HARCOURT CO-OPERATIVE COOL STORES.

THE annual report of the Harcourt Co-operative Cool Stores Ltd., presented to a general meeting of shareholders on January 17, shows that the stores again proved their value to the district in holding fruit for marketing as required. On the whole satisfactory prices were realised.

Owing to the thrip, the outlook for the coming season is not encouraging, the Apple and Pear crops being the lightest for many years. The State Government has agreed to postpone payments due for interest and sinking fund.

The balance sheet shows assets to the value of £34,000, including land, buildings and improvements, £23,000; machinery and plant, £10,000; liabilities include paid-up capital, £17,844/3/11; Government advance account, £14,754/0/8. The working account for the period ended December 20, 1926, shows a profit of £1,550/10/10, but the profit and loss account, after deducting insurance, interest, salaries, depreciation, and sundry expenses, show a debit of £352/10/3.

GOVERNMENT COOL STORES.

Recommendations for Improvement.

The Committee appointed by the Minister for Agriculture to enquire into the operations of the Government Cool Stores has recommended an adjustment of storage charges, a publicity and propaganda campaign throughout the State, demonstrations to growers by experiment of the value of pre-cooling of Apples and Pears, and that the conveyor and gantry be sold to best advantage.

It is also suggested that the business of the cool stores may be greatly expanded by linking up with the Victorian Railways.

Cabinet has directed the Minister to carry out the recommendations as far as possible.

COOL STORES FINANCE.

Where cool stores in Victoria had their land and buildings mortgaged to cover advances, difficulty was experienced in financing the erection of dwellings for engineers and employees. By legislative enactment, the Victorian Parliament has now agreed to release up to five acres, which can be separately mortgaged to finance the erection of such dwellings.

COOL STORAGE CHARGES.

In response to a request from the Auckland (N.Z.) Provincial Fruit-growers' Council Ltd. Mr. J. G. Aird, Secretary Fruitgrowers' Cool Stores Association of Victoria, has supplied the following information:—

I have no definite information as to charges made by Melbourne private cool stores; in some instances the charges are agreed upon for a definite period by mutual consent, whilst other stores charge 3d. per case for handling in and out, and 1½d. (one and one-half pence) per case per week. I understand Sydney charges are higher.

Charges are made by stores in my Association on the actual cost of working, there being no profits and no losses, any excess or deficiency being carried forward to the next year's working, the principle being:—

- (1) Shares are issued in accordance with the store's capacity.
- (2) Space is allotted according to each shareholder's holding.
- (3) Available space is fully allotted.
- (4) Space-rent levies are struck according to the estimate of financial requirements.
- (5) Shareholders pay space-rent levies whether they use the space allotted or otherwise, with the provision that a shareholder can sublet his space if he cannot fill it. The shareholder is responsible to the management for the full amount of his levy.
- (6) The store management deals with its own shareholders only.

The annual charges vary at different stores according to their various commitments, ranging from about 1/6 to 2/- per case for the season. Each shareholder handles his own fruit in and out, paying the flat rate irrespective of how long it is in store, always provided that it is all removed before the end of November, when the stores cease running for the season.

On account of the very short crop in Victoria this season, growers in my district (Ringwood), are offering storage at 1/7 per case for the season, handling it into store and re-loading on to railway trucks; but this figure is the exception. In an ordinary season I should say storage charges would be for say—One month, approximately 9d. per case; two months, 1/3; three months, 1/9; four months, 2/3; six months, 3/-.

INSPECTION OF EXPORT APPLES.

(To the Editor of the "Fruit World.")

Sir,—Re inspection of Apples for export—why not let this duty largely devolve on the growers?

Let all Apples for export go through packing sheds—even if there are only three or four growers, let them pack in one shed; packers to pass a test—they and growers each to have registered numbers, and each shed its own registered brand.

Cases to have shed brand, growers' and packers' registered numbers. Each grower's Apples could be kept distinct and sold separately.

It would be to the interest of each grower to see that the reputation of his shed's brand was kept up, as all his fruit would be sold under it.

The faults, if any, found on the other side, could be traced to the person responsible; and if complaints became so frequent as to show they were the result of something more than accident, then steps could be taken to prevent repetition.

The good grower and packer would have nothing to fear from the taking of such steps, and it is time that the bad ones were brought to book.

I had conversations with Covent Garden buyers some years ago, and found that, as they cannot inspect all the Apples to be sold, they buy largely on reputation.

If they cannot be certain of the quality of Apples, they leave an ample margin for contingencies. Under these circumstances the good grower, who is unknown, gets less, and the bad grower gets more than he should. Even when passed after a far more careful examination than can possibly be given at the wharf,

it does not follow that the Apples are going to stand the journey.

There are many things known only to the grower that are very possibly going to militate against success.

These can only be known before they are packed, and it is there the inspection should be done.

W. J. WILLIAMSON,
Portland, Vic., 6/1/27.

FRUIT MARKETING.

Views of Mr. Tyner, M.L.C.

The Hon. W. Tyner, M.L.C., who has just returned from a trip through the United Kingdom, Europe and America, has some interesting comments to make regarding the fruit industry. Summed up, Mr. Tyner's impression is that the fruit produced in Australia is equal in quality to that produced in any part of the world, but that in the matter of packing and grading, we have much to learn; further, that by the organisation of growers in their various districts, and an effective educational advertising campaign, vastly more fruit could be consumed in Australia.

The statements recently made concerning the quality of Australian Apples in London should be qualified, he thought, by the knowledge that the deterioration and waste were caused to a large extent through the results of the dislocation from the general strike, and rough handling and the opening of the holds at different ports, which caused a rise in temperature of the fruit.

There was much overlapping in London on the part of the various Control Boards, which were a burden on industry. There was as much sense in trying to fly to the moon as in trying to control prices in London, with its eight million population—London being the market of the world.

Instead of Control Boards, there could be, if necessary, an Advisory Board or Committee in London which could compile statistics and give information regarding the Marketing conditions in relation to all Australian produce, including, of course, fruit. There was very little co-ordination in the efforts of the State Agents-General and Commonwealth staffs. The reports sent to Victoria were more frequently pigeonholed than made public, which was disheartening to the London staff, and Australia was not getting the best returns for the expenditure involved. An Advisory Committee could do all that was necessary, and

at far less cost than the present overlapping Control Boards.

Mr. Tyner said he believed there were hidden profits in the consolidated handling charges. On the other hand, the commission of 3 to 5 per cent. was low. There was a good opening for Australian fruit in Hamburg, but the duty of 2/8 a case was excessive, especially as the duty on American fruit was only 1/3. Mr. Tyner was profoundly impressed with the open-air markets, which were conducted in the various European and English cities. Enormous quantities of fruit as well as other goods were disposed of in this way. The various municipalities around the city of Melbourne should encourage the open-air markets.

"When travelling on the American railways," continued Mr. Tyner, "I noticed with pleasure the facilities afforded passengers for obtaining fruit. In Canada and the States, fruit is on the menu card at every meal. On the long-distance trains, a pleasant but persistent salesman accompanied, and was able to offer passengers a wide selection of fruit. I consider that if similar provision were made on our railways, a considerable quantity of fruit would be disposed of. The rights for the selling of fruit could be leased, if necessary, to private firms.

"I believe the fruit industry in this country would receive a great uplift if the growers themselves would view their industry from a national viewpoint. The first essential is the organising of the growers in their various districts. Thus, by having meetings regularly, useful information could be imparted on topics of far-reaching importance; then, by the growers, sending their delegates to State and Australian conferences, the industry could be handled in a comprehensive manner to the benefit of the growers individually and the country as a whole.

"In view of the fact that the U.S.A. consumes 65 per cent. of her Apple crop within her own country, it cannot be too strongly stressed that the local market should be developed and availed of as much as possible, together with f.o.b. principle of selling. Consignment business overseas is subject to all kinds of risks to the producers; in fact, this season has been a most disastrous one to many of those growers who sent their fruit overseas for sale on commission."

In conclusion, Mr. Tyner stated that he had been received with the utmost courtesy on every hand. He was impressed with the cordiality of the Americans towards Australia.

PEARSON

BROS.

(FRUIT BROKERS) LTD.

27 Victoria Street
LIVERPOOL
ENG.

Cables: "Blenheim"
Bankers: Midland Bank Ltd.
LIVERPOOL

Consignments of Australian
and Tasmanian Apples
Solicited

We have had over twenty
years experience in selling
and distribution of this fruit

References Given
Correspondence Invited

PEARSON

BROS.

(Fruit Brokers) Ltd.

27 Victoria Street
LIVERPOOL
Eng.

Cables: "Blenheim"
Bankers: Midlands Bank Ltd.
LIVERPOOL

Agent required for
supervising shipping
and
advising consignments

INCREASE YOUR M

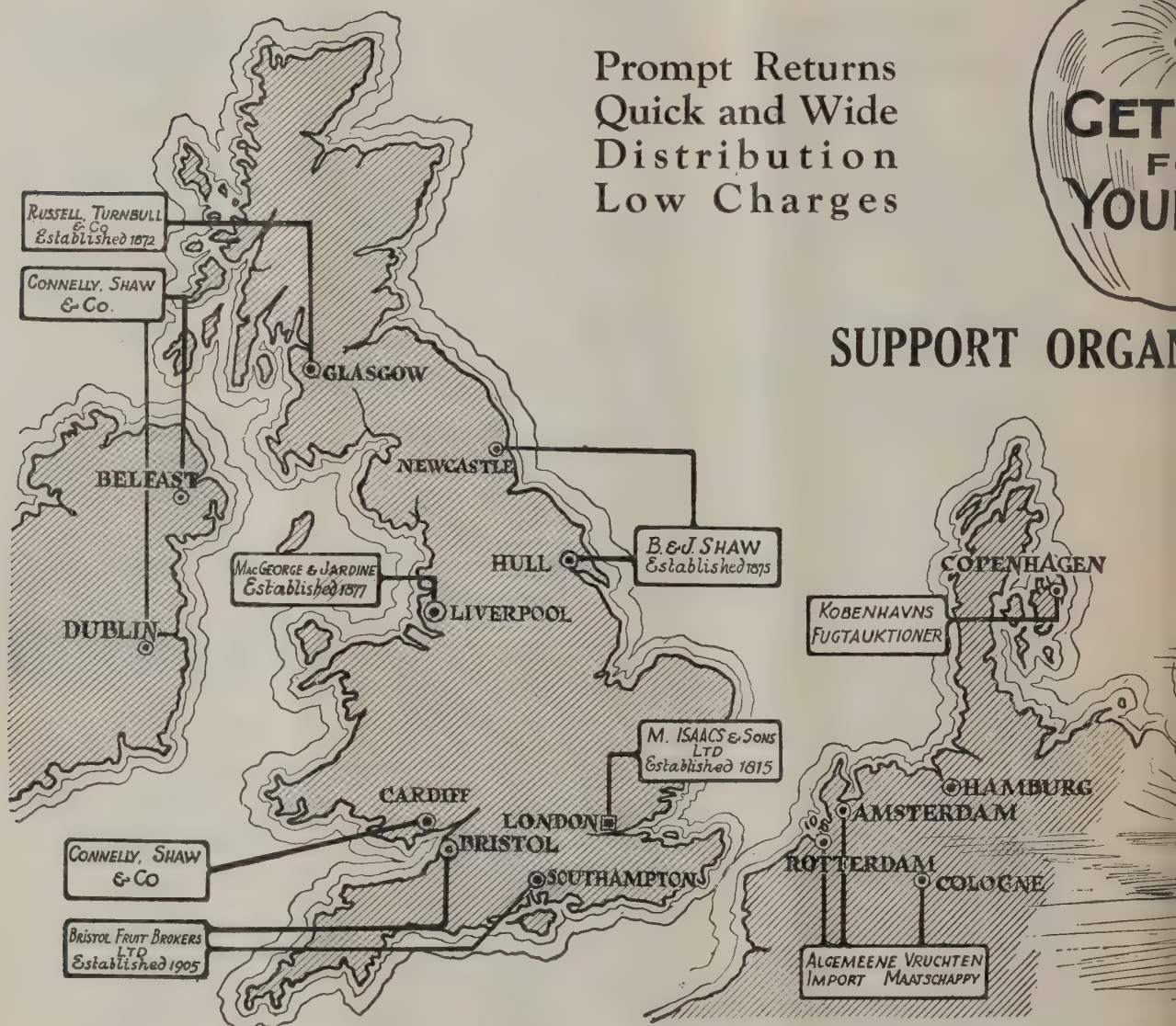
BY USING

COMPLETE AND DIRE

Prompt Returns
Quick and Wide
Distribution
Low Charges

GET
F
YOUR

SUPPORT ORGAN



General Australasian Representative: **H. G. COLOMBIE**

Temple Court, Collins Street

Melbourne

Telegraphic Address: "Columbine," Melb.

Phone: F 3284

Over Twenty Years' Experience in Marketing of Fruit in U.K. and Continent

MARGIN OF PROFIT

THIS ORGANIZATION

AUSTRALIAN GROWERS

Profit by the experience of other growers

CENTRALISE the sale of your fruit IN THE ONE RECOGNISED AUCTION SALE-ROOM AT EACH PORT, where Overseas Fruit is concentrated for sale, and where large numbers of buyers attend regularly.

THIS CONCENTRATION ENABLES BROKERS TO REGULATE SUPPLIES AND STABILISE MARKETS.

By this system BUYERS ARE MADE TO COMPETE for the fruit, TO THE BENEFIT

OF YOUR RESULTS, whilst by other methods, salesmen compete to obtain buyers.

CATALOGUES ARE PRINTED for buyers before sale, and reprinted after sale SHOWING ACTUAL PRICES PAID for your fruit. No manipulation of results possible.

Lots are sub-divided to enable all buyers to compete on equal footing.

Each parcel is valued by Auctioneer before sale, and lots not realising reserve prices are withdrawn.

D MARKETING



For Shipping Space, Advances, etc.
apply to any of the above Shipping
Representatives

New Zealand.

District Notes.

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable
"Peachbloom," Dunedin.

NEW ZEALAND.

CENTRAL OTAGO.

THE fruitgrowing industry, or rather, the stone fruit section, has received rather a serious setback this year by a serious visitation of late frost, which occurred in October, when the fruit had set nicely. There was every prospect of bumper crops in all varieties, when the frost came and practically wiped out all stone fruit crops in one night. Nine degrees of frost were registered in many parts of the district, and this is the most severe frost at this particular stage for 13 years. Growers on flats suffered the entire loss, while those happily situated in or at the mouth of a gorge suffered comparatively slight damage. The Apricot crops suffered mostly, and as Central Otago practically supplies the whole of New Zealand with this fruit, the public will have to be short of the favorite fruit in its various forms.

The question of prevention of frost damage is being eagerly taken up by the growers, and the local Association is busy obtaining the fullest information bearing on the subject. Heating by means of coal fires had been used previously with only partial success, but the general opinion now is much in favor of crude oil for the purpose. It seems strange that although stone fruit crops are destroyed, Apples and Pears have escaped to a great extent, and so far as can be estimated, an average quantity will be available for export.

The weather here during the spring and early summer has been very unseasonable, being very cold and wet and only now are we getting any real growing weather.

There has been a fair amount of planting during the past season, and there was a scarcity of trees in N.Z. nurseries, mostly stone fruit. A fair quantity of trees came over from Australia and towards the latter end of the season varieties sent for could not be supplied, and others had to be substituted. The Australian stone fruit trees were generally good and well packed, and arrived in good condition, yet some were very small, and would not give the nurseries from which they came much of an advertisement.

New Zealand nurserymen do not bother growing many stone fruit trees, so the growers will more than ever look across the Tasman Sea for supplies, provided the quality is assured.

Colonel Gray (Chairman Fruit Export Control Board), who was in Great Britain during last season distributing the Dominion's consignments, has lately returned, and has visited all the fruit areas, giving the growers the result of his observations. Last week he visited Otago and held meetings at Dunedin, Ettrick, Earnseleagh and Ripponvale, where there were good attendances. The Colonel has a great deal of information gleaned from many sources, and this will be of great service to the Control Board in its future operations. One big point which the Colonel strove earnestly to drive home to all concerned, was the deliberate and calculated attempt by America to obtain control of the home fruit market, and at all cost to kill the opposition coming from Australia, New Zealand and other parts of the Empire. This is no idle dream, and the next few years will prove its reality.

The following are the present officials of the Central Otago Fruitgrowers' Association. President, Mr. J. R. Laing; Vice-President, Mr. J. Frater; Secretary-Treasurer, Mr. Cecil McIntosh; Executive, Messrs. A. Thorley, J. Wing, R. Kennaird, J. Hawley, C. Weaver, A. Ashworth and M. P. McGennis.—Central Otago Fruitgrowers' Association, Cecil McIntosh, Secretary.

HAWKES' BAY.

Damage by Hailstorm.

Following a disastrous hailstorm during November in the Hastings district of Hawkes' Bay, it has been estimated that over 100 acres the Apple crop was reduced by 80 per cent., while in an area of between 700 and 800 acres the Apples were pitted so severely that very heavy thinning was necessary, causing a loss of about 30 per cent. Another 100 acres suffered a light pitting, which will presumably reduce the quantity available for export.

It is estimated that the total loss to the district will amount to between £16,000 and £20,000, by direct loss in bulk and by reduction in value of the remainder.

Enquiries are being made regarding protection from such storms, or insurance of crops. Meantime, the question of compensation to growers affected was being considered.

SHIP TO AUCKLAND, N.Z.

Consign to the Up-to-date
and Established Firm of

TURNERS & GROWERS — LTD. —

City Markets, Auckland
New Zealand.

Salesrooms comprise—

55,000 ft. of FLOOR SPACE,
including

FRUIT COOL STORAGE ON
PREMISES.

Staff of nearly 100 Employees
Competent Salesmen only
employed.

HIGHEST PRICES

PROMPT RETURNS.

CABLE ADDRESS: "Cantab"
P.O. Box 439.

BANKERS: Bank of New
South Wales, AUCKLAND.

Fighting Insect Pests.

Light-brown Apple Moth.

The green active caterpillars of this light colored brown moth are more numerous this year than usual. It is advisable to spray at once with arsenate of lead. They are particularly destructive to the late Apples, especially the Yates.

Woolly Aphids (parasites).

The Aphelinus parasites are now ready to be sent out. Twigs containing the parasites can be obtained from the Orchard Supervisors. Application for a supply should be made at once.

Red Scale Parasite.

The Agricultural Department (Science Branch), has recently imported a supply of the Orange and Lemon red scale parasites from W.A. These have been liberated, and when a supply is available, growers will be notified.

Red Spider (Bryobia).

Spray trees (particularly Apple trees) thoroughly with red oil or lime sulphur for these pests.

The Painted Apple Moth.

The hairy tufted caterpillars of this moth are still fairly numerous. Spray with arsenate of lead to keep them in check.

Looper Caterpillars.

These destructive caterpillars are usually numerous during February and March. They attack Apples, especially when about half grown. One caterpillar will often eat several holes in every Apple in a bunch, and sometimes work right into the core. They are easily destroyed by the arsenate of lead spray.

Bag Moth on Apples.

During the last few weeks quite a number of small bag moths have appeared in orchards. These insects travel over Apples, biting holes in them and cause same to become unsightly. The caterpillars carry their cases about with them, and are well protected against insect-eating birds.

Codlin Moth.

These insects have been exceptionally numerous this season.

For remedial measures, see "The Fruit World," December 1, 1926, p. 572-575, and January, 1927.

Rutherglen Bug.

These insects have appeared in vast numbers in orchards. They are a small grey insect belonging to the so-called plant bugs. Like all other plant bugs, they suck the sap from fruits, flowers, etc., causing much damage.

Spray with benzole emulsion, tobacco water, phenyle or tar-water.

Experiments of trying to drive these insects from orchards by smudge fires have been very successful. When a gentle breeze is blowing, make smudge fires at intervals amongst the trees, and sprinkle a little sulphur on them. Should sulphur be used, fires must not be made too near the trees, otherwise foliage will be damaged.

Peach Leaf Curl, Caused by Aphids.

These destructive little green and black aphids are more numerous this year than for many previous years. By sucking the sap from the trees it causes them to become weakly. Spray with nicotine sulphate or black-leaf 40.

Scales.

The young of the olive or black scale, red scale of Citrus, Apple muscel scale, San Jose Scale, and other scales are now moving. It is advisable to spray at once with nicotine sulphate or black-leaf 40.

OIL-SOAP SPRAY FOR APHIS AND SCALE.

Speaking at a meeting of the Katoomba Branch of the N.S.W. Agricultural Bureau, Mr. C. Wooller, of Oliva Farm, North Katoomba, said he had been experimenting for some years with a spray composed of crude oil and soap for the control of woolly aphis and scale.

The oil must be thoroughly emulsified. Mr. Wooller stated:—"I apply the spray winter strength, from seven to fifteen in one, according to the state of the tree. I spray all deciduous trees to cleanse them of muscel scale, San Jose scale, and I hope to combat the black spot, which, to my mind, adheres to the bark to a great extent. I hold that this spray applied in spring will thoroughly cleanse the trees, as both the crude oil and soap consist of cleansing properties. I use a barrel pump over 200 lbs. pressure, with the pistol spray nozzle adjusted to a straight jet. It will reach the highest top branches, or it will, if applied to the butt, send the loose bark flying, and along with it, codlin larvae.

"Regarding the woolly aphis, I am happy to state I have conquered the pest with this spray. Trees at one time badly affected and showing knobs where the aphis had their breeding nests, are now clean, and a new healthy bark growing over the places."

Valuable Combination Spray.—Spraying tests with Qua-sul, a soluble sulphur carbon compound, are being carried out by the Tasmanian Department of Agriculture, at the orchard of Mr. W. C. Page, at Huonville, Tas. Qua-sul is stated to be a dual purpose spray—that it will kill both sucking and chewing insects. Trees were sprayed twice in September with Qua-sul, 1 in 33, plus 3 lbs. soft soap, the soil at the base of the trees also receiving a dressing of the compound. The results of the tests will be awaited with interest.

For black spot, some interesting results were obtained by Mr. A. B. Curran, who, by using Qua-sul, has got a clean crop of Pears as against spotted fruit where other compounds were used.

EYES SMART AFTER SPRAYING.

Some orchardists find that their eyes smart annoyingly when they retire at night after a day of spraying. An American exchange states that a good way to relieve this trouble is as follows:—As soon as the smarting commences, turn the face downward and rub the eyes with a dry handkerchief so as to cause tears to flow plentifully. This rubbing will probably make the smarting more severe at first so that the sufferer may be tempted to give up the treatment; if, however, he sticks to it for a few minutes the tears will carry the spray material out of the eyes and relief will come. This method works better than washing the eyes with water or boric acid.

SHIPPING PEARS IN TINS.

Last year an experimental shipment of Bon Chretien Pears was sent from California to Eastern markets in tins instead of the regular bushel box.

These tins were sealed and crated two in a crate, and the approximate weight of the contents of each tin, 20 lbs. The London "Fruit Grower" of October 21, gave the following market report.

"A feature of this week's Pears has been imported Bartlett (Bon Chretien) in 40 lb. crates, containing two 20 lb. tins, airtight, and well packed. The fruit is in remarkably good condition, and went as high as 18/- per crate."

Another report states that some California Bartletts in tins, two to a crate, are very beautiful; price quoted 18/- to 20/- per brace.

From above, it is evident that American shippers have succeeded in making a success of this latest method of Pear packing.

Seasonable Work in the Orchard & Vineyard

ALL STATES

Deciduous.—Spraying for Codlin Moth and Light Brown Apple Moth should not be neglected this month. Harvesting of Pears and early Apples, irrigation where available, and cultivation will keep growers fully occupied.

Vines.—This is the time for attending to the summer budding, when working over to new varieties.

Citrus.—Fumigation and spraying should be general, and all water shoots cut out.

Sub-Tropical.

Harvesting of smooth leaf Pines for the cannery should commence. Fruit should be about half colored, and of high sugar content.

Bananas.—Cut for shipment for southern markets when well filled, but do not pack over-ripe fruit.

Strawberries.—This is a good time to plant for early ripening fruits. Sow Peas, Tares, Vetches, etc., for green cover crops.

VICTORIA.

THE main orchard operations for February are the harvesting of the later varieties of Plums and early Pears and Apples.

A continuance of irrigation will probably be necessary. Cultivation should as far as possible follow irrigation.

Continue spraying with arsenate of lead for codlin moth and light-brown Apple moth.

Everything should be got in readiness for the export of fruit and picking for cool storage during March. Supplies of all necessary material should be on hand. Hardwood cases, as supplied by the mills in shooks, are always cut to allow for shrinkage; if the cases are used in a green state, as they often are, this means a considerable loss to the grower. A small circular saw to cut the ends to proper width is a good investment.

In picking for export by the early boats, only a small proportion of the fruit is of sufficient size; this being picked is equivalent to thinning the crop, and results in better growth by the remainder and a bigger average size for the entire crop.

NEW SOUTH WALES.

HARVESTING of early Apples and Pears will now be undertaken.

In localities where the soil is sufficiently moist, Citrus trees can receive their summer dressing of manure this month, but if the soil is very dry it would be better to withhold this dressing. While the soil is dry, it is a good opportunity to cart on any soil for re-soiling or stable manure or other matter to supply humus. This takes the place of green manuring where such is not practicable.

If the sap is running freely, it is a good time to bud any trees that have been previously cut down in preparation for this work. When securing buds be sure to select them from trees that have proved to be constant croppers of a good type of their variety.

Attention must be given to spraying for Citrus red scale and white wax scale. Fumigation should also be carried out. During the rush of the picking season, growers should not neglect the regular collecting and destroying of codlin moth infected fruit, as this only means more trouble and loss later on.—N.S.W. Department of Agriculture.

WESTERN AUSTRALIA.

(See also p. 65.)

A PART from harvesting operations, soil cultivation for conservation of moisture and pest control are the main duties now requiring attention.

The worst fruit pest in this State is fruit fly. Every precaution should be taken by all growers in the infested districts to keep the pest under control. All fallen fruit should be gathered up, not once or twice a week, but once in every 24 hours, and all fruits found to be infested should be boiled. If this is regularly done, and foliage baiting and trapping also systematically attended to, losses from this pest can be kept down to small proportions. If no precautions are taken the effect is disastrous, both to the grower concerned and also to his neighbours.

Growers are here reminded that Codlin Moth is present in the State, both at Narrogin and Collie, and the most careful watch should be kept by every Apple and Pear grower, both while the fruit is on the trees and when it is being gathered, so

that the first appearance of the unwelcome visitor in any fresh district or orchard may be at once known, and steps taken for its eradication. While it is present in small numbers it can be got rid of. This has been proved many times in this State, but should it become widespread, eradication becomes increasingly difficult, and it is of vital importance that the Department should be at once notified of any fresh case of infestation.

Two other pests are worthy of mention this month, but they form a more pleasant topic than those quoted above. Those referred to are Woolly Aphis—an Apple tree scourge—and Red Scale, one of the worst insects affecting Citrus trees. Fortunately both of these are being held in subjection by introduced parasites, and while in scattered places here and there some artificial treatment in the way of sprays is still necessary—in the great majority of orchards the little friends of the growers are doing wonderfully good work in keeping the pests under control.—Geo. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture."

SOUTH AUSTRALIA.

THE principal orchard operations at this time of the year are harvesting the various fruit crops, drying Currants, Prunes and Peaches. During February the final spraying of the latest varieties of Apples should be carried out.

QUEENSLAND.

(See also p. 78.)

The Coastal Districts.

FEBRUARY in coastal Queensland is frequently a wet month, and, as the air is often heavy with moisture and very oppressive,

plant growth of all kinds is rampant, and orchards and plantations are apt to get somewhat out of hand, as it is not always possible to keep weed growth in check by means of cultivation. At the same time, the excessive growth provides a large quantity of organic matter, which, when it rots, tends to keep up the supply of humus in the soil, so that, although the property looks unkempt, the fruit-producing trees and plants are not suffering, and the land is eventually benefited. When the weed growth is excessive and there is a danger of the weeds seeding, it is a good plan to cut down the growth with a fern hook or brush scythe and allow it to remain on the ground and rot, as it will thereby prevent the soil from washing, and when the land is worked by horse power or chipped by hand it will be turned into the soil. This is about the most satisfactory way of dealing with excessive weed growth, especially in Banana plantations, many of which are worked entirely by hand.

Citrus orchards require careful attention, as there is frequently a heavy growth of water shoots, especially in trees that have recently been thinned out, and these must be removed. Where there are facilities for cyaniding, this is a good time to carry out the work, as fruit treated now will keep clean and free from scales till it is ready to market. Citrus trees can be planted now where the land has been properly prepared, and it is also a good time to plant most kinds of tropical fruit trees, as they transplant well at this period of the year.

Strawberries may be planted towards the end of the month, and if early-ripening fruit is desired, care must be taken to select the first runners from the parent plants, as these will fruit quicker than those formed later. The land for Strawberries should be brought into a state of thorough tilth by being well and deeply worked. If available, a good dressing of well-rotted farmyard manure should be given, as well as a complete commercial fertiliser, as Strawberries require plenty of good manure and pay well for extra care and attention.

In the Granite Belt and Southern and Central Tablelands, where necessary and possible, Citrus trees should be given a good irrigation, as this will carry on the fruit till maturity, provided it is followed up by systematic cultivation so as to retain a sufficient supply of moisture in the soil.—Queensland Agricultural Journal.

TASMANIA.

(See also p. 91.)

THIS will be a busy period for most fruitgrowers. Harvesting of the Apricot and stone fruit crops will be in full swing, and toward the end of the month packing commences of the early varieties of Apples and Pears, which are to be forwarded "overseas."

A good rain was experienced in Northern districts during January, but this has not been sufficient for the crop requirements. Districts north-east of Hobart are particularly in need of a good downfall, and every

Bankers:
COMMERCIAL BANK OF AUSTRALIA,
Collins Street, Melbourne.
Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL
Consign your Fruit to
FRUITGROWERS DEPOT
(Licensed and Registered by the Government of Victoria).
Managing Director—M. J. FOY.

Wholesale Fruit and
Produce Commission Agents
Importers and Exporters of Interstate Fruit
471 Flinders Lane, Melbourne
TELEPHONE F 1392.
Telegrams: FRUITGROWERS.
471 Flinders Lane, Melbourne.

To Orchardists

Send for Prices of the
"Bave-U" Sprayer
to
E. ROBINSON
333 George St., SYDNEY

effort must be maintained by growers to conserve the soil moisture by frequent cultivations if the fruit is to reach satisfactory size.

Budding.—This operation may be successfully carried out during the month upon all fruits.

Fruit trees which have been re-worked during the spring, and upon which a number of limbs have "missed" may be "budded" if a satisfactory growth has been maintained for the purpose. It is advisable to remove the heart wood from "buds" of

Cherries, Peaches, Plums and Apricots before insertion. Apples and Pears do not require this if a thin bud is cut that will not bulk too largely when placed in position.—P. H. Thomas, State Fruit Expert.

FRUIT EXPORT CONTROL.

A Westralian View.

"We Oppose the Measure."

The following letter was received recently by Dr. Soilleux, of Wantirna, Victoria, from Mr. T. H. Ilbery, "Mundaring Park," Mundaring, W.A.:—

"I have read with interest your letter to Mr. Martin, of Mount Barker, which has appeared in our local press.

"It is gratifying to note that the Victorian growers are opposed to the proposed legislation by the Federal Parliament to attempt to control the export of fresh fruit from Australia, and I can assure you that very many of the W.A. growers are also in opposition.

"I was at the meeting in Bridgetown when the matter was being discussed, and although our delegate was given a free hand, with only one in opposition, the meeting carried a motion antagonistic to the proposal. I was astonished therefore to read that our delegates supported the Minister's proposals, when at the Conference.

"I turn out about 7,000 cases per annum, and am naturally much interested. Mount Barker and Bridgetown are only two of the many fruit-growing centres in W.A. I know that many growers in both these places are quite opposed to the measure, and elsewhere there is strong opposition, enough I believe when it comes to a vote to defeat the Bill.

"I am writing in support of your action, and congratulate you upon it.

"Another object is to correct the idea, should you hold it, that W.A. is for this legislation.

"We have created our own machinery over here to handle our business, and have good firms also in the business. There people deal well with the export situation; we know and trust them, but mistrust the proposed Board.—Yours faithfully, T. H. Ilbery."

STARLINGS ON THE M.I.A.

It is reported that starlings are becoming a serious pest on the M.I.A. this season.

Queensland

Cultural Notes : Committee of Direction.

(By Our Correspondent.)

COPIOUS rains throughout the State have rapidly changed its general appearance, vegetation which had for so long been curled and stagnated by the drought show a vivid green. The humid atmosphere has been most favorable for succulent growth and the pestiferous mosquito finds congenial harbor amongst luxuriating foliage; the field worker, particularly in Banana plantations is most annoyingly incommoded by the persistency of their combined attentions. Weeds are super-abundant, and the frequent thunderstorms, whilst aiding their growth, detracts from attempts at eradication.

Citrus Prospects.

Unfortunately rains were much too belated to save anything approaching a fair Citrus crop, and appearances indicate little more than half the usual quantity being matured this year.

Coastal Grapes, which have been on the market for upwards of a month, are rather deficient in size, and owing to excessive moisture more recently lacking in flavor.

Pineapples

are making excellent growth, and the maturing of fruit of rough leaved varieties is fairly rapid. Generally, the prospects of Pineapple culture are very favorable, and in the future—perhaps a distant one—it must be

recognised that the purely tropical parts of the State will provide the best material for canning. An intimate acquaintance with the northern Pine originates disgust at the parochial policy which encourages southern planting in doubtful areas.

Temperate fruits have been in limited supply on markets, and though the quality has admitted of very much improvement, prices have been well above the average; more recently a decided improvement has been noted, particularly amongst stone fruits.

Banana plantations

which have for months been in a practically dormant state, have liberally responded to the changed conditions, and a comparatively early return to normal markets can be expected. Isolated favored localities have benefited by the acute shortage of fruit and record prices have obtained for first-class fruit; 1/6 per doz. was recently realised in Brisbane markets for a special line. Such excessive prices unduly inflate land values in districts where they may be realised, but unscrupulous agents are not averse to quoting generally the returns per acre from Banana (and other fruit) lands.

Misrepresenting Agricultural Land.

It is unfortunate and a direct loss to the individual concerned, also the State, that some control is not applied over the sales of agricultural and fruit lands, for rarely has the deluded purchaser the inclination or the means to face a civil action. Recently, however, the civil law was availed of to annul a sale and provide damages for misrepresentation in respect of a Banana farm, but the effect so far as general transactions are concerned will have no appreciable influence. It is unlikely that this State possesses an entire monopoly of land boosters, and if the remainder are a quarter as well supplied, the advisability of uniform action must be obvious.

The Fruit Marketing Petition.

The manner in which the petition demanding a poll re the continuation of the Fruit Marketing Act, was dealt with by the Minister, has been freely criticised in letters to the Bris-

bane press, but boiled down, the criticism really amounts to statements that had the correspondents been aware that more signatures were required, these were available in abundance. On the evidence available, one cannot take the contributors as seriously as they appear to take themselves, and the matter having been decided in a perfectly legal and legitimate manner, it is poor policy to cavil at the result. The signatories would be better advised to waive their grievances and endeavor to rectify what they may consider wrong.

ORCHARD NOTES FOR FEBRUARY.

The Coastal Districts.

(For Cultural Notes, see p. 76; Pine-apples for Canning, see p. 62.)

BANANAS for shipment to the Southern States should on no account be allowed to become over-ripe before the bunches are cut; at the same time, the individual fruit should be well filled and not partly developed. If the fruit is over-ripe it will not carry well, and is apt to reach its destination in an unsaleable condition.

A few late Grapes and Mangoes will ripen during the month, and, in respect to the latter, it is very important to see that no fly-infested fruit is allowed to lie on the ground but that it is gathered regularly and destroyed. Unless this is done, there is every probability of the early citrus fruits being attacked by flies bred out from the infested Mangoes.

The Granite Belt, Southern and Central Tablelands.

The marketing of later varieties of Peaches and Plums, and of mid-season varieties of Apples and Pears, as well as of table Grapes, will fully occupy the attention of fruitgrowers

SYDNEY:

Fruit Commission
Merchants Agents

S. & M. Greenberg

No. 1 Store
Fruit Markets, Sydney
Also at Melbourne Markets

Tasmanian Shipping No. 161.
Victorian Shipping No. 42.

PROMPT RETURNS

**Brand Your
Fruit Cases and Bags**

with

**CALDWELL'S
STENCILLING
INKS**

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road
South Melbourne, Vic.

in the Granite Belt, and the need for care in regard to handling, grading, packing and marketing, is again emphasised, as it is very bad policy to go to all the trouble of growing fruit and then, when it is ready to market, not to put it up in a way that will attract buyers.

Extra trouble taken with fruit pays every time. Good fruit, evenly graded and honestly packed, will sell when ungraded and badly packed fruit is a drug on the market. Expenses connected with the marketing of fruit are now so high, owing to the increased cost of cases, freight, and

Fruit fly must also be systematically fought wherever and whenever found, and no infested fruit must be allowed to lie about on the ground.

Grapes will be ready for market, and in the case of this fruit the greatest care in handling and packing is necessary. The fruit should never be packed wet, and, if possible, it is an excellent plan to let the stems wilt for a day at least before packing. This tends to tighten the hold of the individual berries on the stem, and thus prevent their falling off.

In the western districts wine-making will be in progress. Here again care is necessary, as the better the condition in which the fruit can be brought to the press the better the prospect of producing a high-class wine.—Queensland Agricultural Journal.

BOWEN

Bowen, 725 miles north of Brisbane, produces Mangoes, Pineapples, Citrus Fruit, Pumpkins, Potatoes, Chili, Tomatoes, Cucumbers, Egg Fruit, and almost every known variety of tropical fruit and produce, including cigar leaf Tobacco.

Tomatoes bulk over 75 per cent. of the export, which goes principally to Sydney by steamer and rail. The export is managed by Bowen Fruit Export Co-operative Association Ltd., which has 207 shareholders, of whom 67 have joined during 1926. The exports for the past six years have been as under:—

1921, 93,448 packages; 1922, 136,549 packages; 1923, 51,919 packages; 1924, 226,853 packages; 1925, 179,031 packages; 1926, 170,343 packages estimated to realise £80,000 for the year's crop.

The average rainfall is about 41 inches, but 1926 has been a dry season, only about 28 inches being registered. All the growers have small irrigation plants drawing from excellent water, only 17 to 25 feet below the surface. The Society supplies all farm requirements, and the turnover for 1926 will exceed £7,000. A charge of 1½d. per package is made by the Society for forwarding, and 5 per cent. on supplies. Certain rebates are secured by the Society, and last year a refund was made to all consignors equal to case fee charged, but this year such refund will be restricted to shareholders only.

An endeavor is being made to float a £10,000 company to make Tomato pulp, and to can other produce. It is estimated that 1,500 tons of pulping Tomatoes can be purchased at £6 per ton and processed for £5 per ton. Owing to the great demand for To-

mato pulp, it is expected a market will be found for all pulp produced at something like £15 per ton, thus leaving a handsome profit after allowing for depreciation, etc.

The question of electroculture for growing crops is receiving some attention, and the Society has just secured the agency and landed a supply of Christofleau's Electroculture Apparatus, which will be tested by growers during the 1927 season.

Tomatoes and other crops are shipped or trained from April 1 to Christmas, and seed beds are now being prepared. Good rain fell during December, and increased areas are being put under crop.—George Turner, Bowen Fruit Export Co-operative Association Ltd.

THE COMMITTEE OF DIRECTION.

(To the Editor.)

Sir,—With reference to this attack on the Committee of Direction of Fruit Marketing in Queensland, surely Mr. Sam Johnson seems determined in his endeavors to smash up this growers' organisation. If he could only get his way we would be back to the old days, and have no alternative but to patronise him and his friends, and thus help them to still further "consolidate" their position. Any little opening that may appear by way of remark passed at a growers' meeting, Mr. Johnson does not mean to miss. He then turns this into a "Huge blundering statement or admission," and would again do his best to further mislead our fellow-growers in the south and elsewhere. But still he's up against it!

So far as the Committee of Direction is concerned, it was open to ballot as to whether it would continue to operate for a further three years as from December 31. It was necessary for a petition to be lodged with the Department of Agriculture not later than November 15 last, signed by at least 500 registered fruitgrowers, asking for such ballot. This petition was duly lodged, but on examination at the Department of Agriculture, was found to contain many names of growers who are not registered, and, the remaining names not reaching the required 500, the Minister ruled the petition out as informal, at the same time making an official announcement in the press to this effect. Regarding this ballot, the organisation generally has nothing to fear, as the result would be overwhelming in favor of continuance. Mr. Johnson may wish to query this statement, but I stand up to it, knowing full well the feeling of the various sections of the organisation.

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches: { Western Market
{ Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt

account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

selling charges, that it is folly to attempt to market rubbish.

During the early part of the month it will be necessary to keep a careful watch on the crop of late Apples in order to see that they are not attacked by codlin moths. If there is a slightest indication of danger, a further spraying with arsenate of lead will be necessary, as the fruit that has previously escaped injury is usually that which suffers the most.



The "Eclair" Spraying Fruit Trees.

FOR

SPRAYING, LIMEWASHING AND DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL

Before Placing Your Order ASK A FRIEND

WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

— TO TELL YOU HIS OPINION OF IT — ACTUAL USE IS THE BEST TEST —

The types made include the following:—

HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS

BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED SPRAYERS
CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS

POWDER BELLOWS
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS

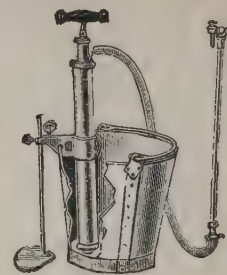
LIQUID CAPACITIES $1\frac{1}{2}$ pints to 88 gallons.

PRICES FROM 4/- each.

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON E.C.2



So much confidence have growers in the progress of their organisation that only recently the Tomato growers asked for Factory Control by the Committee. This was challenged by the same small section of mal-contented (Mr. Johnson is very friendly disposed towards these gentlemen), and a ballot requested. The result was victory for requested control. Now we have the Deciduous Section asking for Factory Control of Peaches, Plums, Apples, etc., and the Citrus Section asking for Factory Control of Citrus fruits. This has not been challenged. The factory supplies of Pineapples have been controlled by the C.O.D. for the past two seasons. So your readers will see that practically all the factory fruits are being controlled by the Committee, and this with satisfaction, both to grower and canner. Space will not permit of my stating the many and varied ways in which the organisation is benefiting growers—they are so numerous.

Regarding green Bananas sent to Brisbane, the Committee is in the very happy position of being able (through its own selling floor) to keep a check on the agents in the market, and Mr. Johnson knows only too well that they have got to maintain prices, lest the floor might beat them. He also knows that the Banana Section of the Committee, as well as the Manager, have their eyes open.

And now for this wonderful discovery in the statement of Mr. Mehan, one of the members of the Committee. This gentleman comes from Stanthorpe—many miles from

Brisbane. There is a Deciduous Sectional Group Committee, which represents the whole of Stanthorpe area, and their interests are identical. This Sectional group meets in Stanthorpe instead of Brisbane to save expense, and they themselves decided to send two representatives to the C.O.D. meetings to watch their interests. Mr. Mehan, in one of his addresses to his growers' Committee at Stanthorpe, remarked that they could still further save expense by sending only one representative (all their interests being similar). This would be a 50 per cent. saving, as Mr. Johnson digs out, but it isn't admitting paying 50 per cent. too much for efficiency, because the Stanthorpe group still desires to send two representatives (although the latter advocated one).

Seeing that these growers are financing their own section, surely they have the right to please themselves. To show your readers how democratic the organisation is, I would like to point out that last year's Committee (the C.O.D. is elected by growers each year) recommended an all-round reduction in personnel, but the various sections concerned decided to send the same number as hitherto. Apparently they are quite satisfied with results being achieved—so why need Mr. Johnson worry?

I again invite any of your readers, who may be in Brisbane, to pay a visit to the C.O.D. and ascertain for himself the true position. He will very quickly discover the enormous amount of "vested opposition" we are up against, and will, after going

thoroughly into our system, be quite satisfied that the C.O.D. is working in the best interests of its members—viz., the whole of the registered fruitgrowers of Queensland.

Now, I wish to correct Mr. Johnson's statement regarding the C.O.D. being a Government concern. It belongs entirely to the growers, is financed by them absolutely, and is not interfered with in any way by the Government—apart from the latter originally giving the Act to work on.

Mr. Johnson, further, has himself stated that he has not had the "pleasure" of meeting the individual members of the Committee, yet he contends that the personality of the Government nominee (who is not always present at Committee meetings) overshadows the whole of the members. Mr. Johnson must surely be a bit of a marvel.

In conclusion, Mr. Editor, I would like your readers (including Mr. Johnson) to clearly understand that, whilst no self-respecting man will tolerate scorn, I am quite prepared at all times to meet criticism. In fact, the C.O.D. as a body, welcomes constructive criticism, but not destructive. I have watched Mr. Johnson's attitude towards the organisation very carefully from the commencement, and without exception he has been out to ridicule and smash all along. But be sure of this, in Queensland we are all wide awake to him and his friends.—Thanking you, yours, etc.,

WILL. KITCHIN.

"Wantirna," Nambour, Queensland,
14/12/26.

ANOTHER VIEWPOINT.

"Avoid Organisation Which Includes Governmental Participation."

(To the Editor.)

Sir,—The official organ of the Queensland Producers' Organisation (an Act of Parliament) of the 8th inst., contains the following significant announcement: "Invalid Petition.—Owing to irregularities in the petition forwarded for a ballot on the continuance of the C.O.D., the petition has been held to be invalid. Accordingly the C.O.D. will continue for a further period of three years."

'Phone Central 8479

F. W. Vear

**Fruit Importer
and Exporter**

COMMISSION AGENT

**49 WILLIAM ST.,
MELBOURNE, VIC.**

Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.

Account sales with cheque daily.

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

**Fruit Brokers . .
and Auctioneers**

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

So—in this socialistic State, even petitions for freedom to exercise a common right—i.e., the free and unfettered disposal of our fruit, can be made invalid, and the C.O.D., with its "Manager," at £1,250, and a total salary list of nearly £10,000 per annum, is to continue for another period of three years!

I would strongly advise fruitgrowers in other States to have absolutely

nothing to do with any organisation proposals, which include Governmental participation in any shape or form.

Organise by all means, but keep the control of your business in your own hands, unless you wish to become mere employees—grafting to support a further addition to the army of non-producers already living on the Australian producers.—Yours, etc.,

MUNRO HULL.

Eumundi, Queensland, 13/12/26.

THE WHITE SERVICE.

Australasian Apple Exports.

We have received from The White Service Ltd., Hull, London, Liverpool, etc., a copy of their report for the export season of 1926, which indicates that one or two outstanding lessons are to be learned. The first is that any prejudice in the minds of the British public against American and Canadian Apples reacts most unfavorably against Australasian fruit. The general public cannot distinguish between one Apple and the other, and even if they could distinguish, once they are apprehensive of arsenic in Apples from any one country of origin they will refrain from the purchase of any Apples whatsoever.

The recently formed Empire Marketing Board will, it is hoped, protect the interests of the Empire grower in this connection.

Whilst the proportionate quantity of Apples reaching the northern markets was a little greater than during the season 1925, yet the trade again suffered considerably by reason of excessive concentration on the London and Southern markets.

It is impossible to over-estimate the importance of distributing Apples in economic relation to the respective distributive areas of the main British fruit ports. Every conceivable endeavor should be made in order to obtain the necessary shipping facilities from the various steamship lines concerned. Shipments to London and the south of England should be materially reduced and larger quantities should be sent to Hull, Liverpool, and the northern markets.

Small fruit should not be shipped. In a normal season fruit wrapped in paper is much preferred to those parcels in which only part is wrapped, and undoubtedly the difference in price justifies the extra cost.

Graphs are given showing the range of prices for the principal

varieties of Apples from Western Australia, South Australia, Victoria, Tasmania, and New Zealand, together with tables of distribution in the United Kingdom, and details of shipments. A total of 3,468,225 bushels of Apples and 166,999 bushels of Pears were received at the various ports of the United Kingdom during the 1926 season, of which London received over 2,000,000 bushels of Apples and 117,000 of Pears; Liverpool coming next with 748,519 Apples, and 35,584 Pears; Hull, Manchester, Glasgow and Southampton were next in order. Average prices ranged from about 7/- to 16/-.

Clifford Barnsbee

Export & General Agent

Display House, 323 Bourke Street
MELBOURNE

Sole Representative in Victoria
and Tasmania for

MORGAN & WILMINGTON,
Turbot Street Fruit Exchange,
Brisbane.

Reference.—Primary Producers'
Bank of Australia.

E. F. B.,

B. P. BROADBENT,
City Market, Sydney.

Reference.—E. S. & A. Bank,
Haymarket.

Also "Elephant" Brand Spray,
Blackburn Casemaker Pty. Ltd.,
and Wrapping Paper.

Agencies in
Covent Garden, London, and
Germany.

'Phone: Central 1837.
Cables—"Finson," Melb.

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

**3 SALTER'S HALL COURT,
London, E.C., England**

Cables:—FIREBRICKS. LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

APPRECIATION.

Having been a subscriber for nine years, I appreciate your excellent journal, "The Fruit World." My property is at Tresco, Victoria. Please also send the "Garden Lover."—(Hon.) S. Barnes, State Parliament House, Melbourne, 14/10/26."



APHELINUS MALI

Testing Its Efficacy Against Citrus Black Aphis.

(By L. J. Newman, F.E.S., Economic Entomologist, W.A., in the "Journal of Agriculture.")

THIS TINY INTRODUCED PARASITE has done remarkably good work against the woolly aphis. It appears to be now well established in most of our Apple-growing districts. Excellent reports have been received as to the value of this introduction as a controlling factor of the woolly aphis.

With the view of determining how it would operate against Citrus black aphis (*Siphonophora* sp.), a test has been carried out. Two years ago several Citrus trees were found in a metropolitan orchard to be badly infested with the black aphis. Colonies of the *Aphelinus mali* were introduced and the trees left unsprayed. For the first year the parasite did not appear to make much headway. During the month of October just past, it was observed that the parasite was present. Two weeks later, the typical swollen parasitised bodies of the dead aphis were noted. Continuous observations were made, and it was soon revealed that this parasite had successfully coped with the outbreak.

A careful examination showed that practically every aphid had been struck by the parasite. A feature which indicates when the aphides have become parasitised, is the separation which takes place. When non-parasitised, they live in colonies or communities. When parasitised, however, they scatter all over the backs of the leaves and there fix themselves and die.

In operating and depositing her eggs, the parasite was observed in

every instance to approach her victim, stroke it with her antennae, and then turn around and back towards it, shooting out her long ovipositor and depositing her egg in the posterior portion of the aphid's body.

The ultimate result has been the complete control of the aphid in the trees in which the test was made.

From these trees we have been enabled to collect and distribute many colonies of the parasite. Should this excellent result prove general against the Citrus aphis, the importance of the introduction and establishment of this parasite will be greatly enhanced.

MURRAY CITRUS GROWERS.

Proposed Federal Exchange.

Mr. J. A. Parkes, Secretary Murray Citrus Growers' Co-op. Association Ltd., writes regarding the Citrus Levy:—A Bill was introduced during the latter part of the session and passed through all stages in the House of Assembly, but was shelved by the Legislative Council. As a general election will take place in March or April of this year, it is difficult to say whether the Bill will be re-introduced by the next Party in power.

Federal Citrus Exchange.—A proposal is on foot as the result of a recommendation by Mr. C. H. Katekar, following on his Californian visit for the establishment of a Federal Citrus Exchange, with headquarters in Melbourne.

The President, Mr. F. H. Metters and Messrs. C. H. Katekar, Renmark; C. N. S. Mueller, Berri, members of Central Executive, and myself, have been appointed to visit Melbourne during this month for the purpose of conferring with the Victorian and New South Wales Associations on the subject.

CONCENTRATED ORANGE JUICE.

Helping to Dispose of the Citrus Crop.

One of the aids to the disposal of the Californian Citrus crop is the preparation and sale of pure concentrated Orange juice. This is put up by the California Fruit Growers' Exchange, and is sold under the name of "Califorange." This concentrate is claimed by the manufacturers to be entirely free from artificial preservative or coloring matter, and is said to be in great demand not only by the manufacturers of soft drinks and the catering trade, but also by those interested in medical institutions. The product is said to be extremely well regarded in America, and on account of its high vitamin potency and its food value, is being supplied to a number of hospitals in that country and in Europe. After the extraction of the juice from the Oranges it is passed immediately into specially designed glass enamelled vacuum pans, where it is concentrated at a temperature of 98 degrees F., or just about the normal temperature of the human body. In this way it is claimed to be able to carry the concentration to a point about seven to one by volume, where the juice is preserved in its own natural sugar, without injury to flavor or vitamin content. The concentrate is then drawn off direct from the vacuum pans into carefully sterilised glass jars which are immediately closed with a steriliser cork and cap. During concentration all traces of Orange oil, derived from the peel in the process of extraction of the juice, is removed. In order to standardise the sweetness of the Orange juice pure sugar is sometimes added. One Imperial gallon of the concentrated juice is said to contain the juice of about 750 Oranges, and is equivalent to about seven gallons of raw juice. It is claimed by the manufacturers that independent experiment and research by authorities,

both in the United States and elsewhere, have established the fact that the well-known vitamin potency of Orange juice is not effected by the process of concentration.

It has been suggested that a food product made from Australian Oranges might find a ready market in the outback districts of Australia, where ordinary antiscorbutic food is not easily procurable. It is believed that the American manufacturers are investigating the possibilities of the Australian market for their product. The other by-products of the American Citrus industry are Oil of Sweet Orange, Lemon Oil, Citric Acid, Pectin, etc.

THE ANTISCORBUTIC VALUE OF ORANGE JUICE.

Experiments have been conducted by the California Agricultural Experiment Station regarding the antiscorbutic value of Orange juice. These are summarised in a Bulletin as follows:—

Feeding experiments with guinea-pigs were made to determine whether the antiscorbutic value of commercially concentrated Orange juice was lowered during concentration. Fresh Orange juice was used as a standard antiscorbutic for control. Similar experiments were made to determine the antiscorbutic value of dried whole Orange and desiccated whole Orange juice, and a few experiments were made with a commercially prepared concentrated Lemon juice. The data obtained show:—

1. That commercial Orange juice concentrated in vacuum at a low temperature retains practically all of the antiscorbutic value of the original Orange juice.
2. That a clarified concentrated Orange juice retained the antiscorbutic factor to a great extent although there is a probability that the longer exposure to the air at higher temperatures lowered this value.
3. That a desiccated Orange juice prepared by a spray drying process retained a good proportion of the antiscorbutic value of the fresh Orange juice even after two years' storage.
4. That a dried whole Orange product prepared in a commercial dehydrator was a very concentrated source of the antiscorbutic factor.
5. That concentrated Lemon juice, commercially prepared by evaporation in vacuum at a low temperature, could be considered a concentrated source of the antiscorbutic substance.

CALIFORNIA FRUITGROWERS' EXCHANGE.

We have received a copy of the Annual Report of the California Fruitgrowers' Exchange for 1926, which indicates that California's greatest Citrus season ended October 31, when that State marketed a total of 63,640 carloads of Oranges, Grapefruit and Lemons, bringing the State

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James St. Warehouses,
11 Neal St.,
COVENT GARDEN
LONDON, W.C.
and at
Jamaica House,
9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

JUSFRUTE LTD.

Using Cull Citrus Fruits.

AT the beginning of the new year, the factory of Messrs. Jusfrute Ltd., at Gosford, N.S.W., was further augmented by the opening of a modern cordial or syrup bottling plant. This company, it will be recalled, has solved the cull citrus fruit problem by turning sound, but blemished and undersized fruit, into oils, juices, and essences, for making the well known Jusfrute beverages. The new plant is designed for the rapid and economical bottling of the syrups designed for the grocery trade. It is of special interest in that it is modelled on the lines made

famous by Henry Ford, the bottles passing on roller bearing conveyors from one operator to another in a continuous stream. The empty bottles go in at one end of the plant, and emerge at the other cased and labelled.

Last season this firm used 32,000 bushels of low grade fruit, and its operations undoubtedly helped to stabilise the market for citrus fruit. This season difficulty has been ex- a total revenue of £20,000,000. The California Fruitgrowers' Exchange marketed 46,593 carloads of the Citrus fruit shipped from the Pacific Coast State during the season. The carload delivered value of the California Citrus crop is estimated at £27,045,000. The Fruitgrowers' Supply Company, a subsidiary of the California Fruitgrowers' Exchange, did a business totalling £2,060,000 during the year.

perienced in obtaining adequate supplies of Lemons. This has led to the Directors considering, in a tentative manner, the establishment of a branch factory in another State. The Managing Director has recently paid visits to Queensland and Victoria, and is understood to be now making enquiries as to the quantities of Lemons available, their source, and the degree of support likely to be given by growers in each State. It behoves the growers in both Queensland and Victoria to put forward the best possible case for their respective States, as the establishment of such a branch factory should considerably benefit the State selected.

LEETON PACKING SHED.

The Leeton Citrus Co-operative Packing Co. Ltd., has recently opened a new packing shed, equipped with fruit grader and complete apparatus for handling a large quantity of fruit. Growers locally are taking considerable interest in the new company, of which Mr. A. D. Mackellar, a Leeton Citrus grower, is Chairman, and it is expected the original estimate will be considerably exceeded.

STICKY BANDS FOR TRAPPING PESTS.

Messrs. Wm. Cooper and Nephews (Aust.) Ltd., of Sydney, have commenced manufacturing sticky bands for placing around the trunks of fruit trees. These have been found very effective in trapping the "dicky rice" which attacks citrus trees. Tests are being carried out regarding the trapping of the Apple root borer beetle. The control of other orchard pests is also being studied by this company.

South Australia

Assistance for Apple Exporters :: Plum Export

ASSISTANCE FROM THE FEDERAL GOVERNMENT FOR S.A. APPLE EXPORTERS.

A meeting of fruitgrowers held in Adelaide recently agreed to a resolution asking for financial assistance from the Federal Government to the value of £10,000, to make up the loss on the export of Apples in the 1926 season, under similar conditions to those pertaining to Tasmania.

A Committee consisting of Messrs. J. B. Randell, R. G. Morphet, and Fletcher B. James, was appointed to further the matter.

T. J. POUPART

Ltd.

Covent Garden, London, W.C.2
and 3 Love Lane, Eastcheap, E.C.2

*The Premier Firm of Fruit
Salesmen in Great Britain*

Sale by Private Treaty only (Gives best results)

Commission the exclusive basis (purchase propositions cannot be considered)

Advances offered to cover freight and accessory charges

Victorian Representative:

FRED. J. ANDREW

416 Little Collins Street, Melbourne

EXPORT OF S.A. PLUMS.

SINCE 1922, the South Australian Government Produce Department, in conjunction with the Fruitgrowers' and Market Gardeners' Association, has made experimental shipments of fresh Plums each year with the object of determining whether it is possible to make a market for such fruit in Britain. Other objects were to find the correct state of ripeness at which the Plums should be packed, the best method of packing, and best conditions for sea carriage, and the most suitable sizes and varieties to appeal to the British consumer.

Shipments for the first four years

were made in the small experimental chambers of the Australian Commonwealth line steamers, and it was clearly shown that some varieties of Plums will carry quite satisfactorily, and that a very remunerative market awaits the choicest dessert fruit.

Market Requirements.

The market requirements discovered are:—

The only profitable market is for the largest and boldest dessert fruit. No misshapen or slightly blemished fruit should be shipped.

The fruit should be packed in standardised trays and the contents should be properly graded to size and the trays should contain standard weight or counts of fruit.

The packing should be as attractive as possible.

The fruit should arrive in a state of ripeness which would allow some time for marketing and final use by the buyers.

Shipments should be limited to 3,000 trays each.

Altogether 42 varieties of Plums have been shipped, and those which have done well consistently are:—Shipper, Kelsey, Golden Drop, President, Green Gage (large fruit only), Giant Prune, Grand Duke, Fellemborg, Jeffersen, Diamond (large fruit only), Climax, Red Heart, and Splendour. The first five varieties named were the outstanding successes.

Present Difficulties.

The South Australian Plum growers have not been growing Plums for a select dessert trade, but have been selling most of their fruit to jam makers, and it has been difficult to obtain the choicest fruit required. If Plum export is to be a success, growers will need to treat their most suitable trees by means of pruning, manuring and cultivating so as to obtain larger fruit.

It has not been possible to obtain small chambers in the ships for the carriage of Plums, and consequently shipments have been confined to small experimental chambers, and one shipment of approximately 5,500 trays. The ideal shipping space is a chamber to hold 1,000 to 3,000 trays, and it is not desirable to share a hold with one of the other States.

It is advisable to make several

small shipments rather than place a large shipment in England for sale, because the marketing life of the fruit is limited, and the selling of a large shipment is therefore "forced."

There is from 14 to 21 days difference in the time the fruit matures in our various districts, and it has been difficult to arrange for one shipment during each season to suit each district, but this has been overcome by booking in a late steamer and holding some of the fruit in cool stores pending shipment.

Picking and Packing.

Although growers have learned the wisdom of careful picking and handling and the necessity for getting fruit into store for cooling as soon as possible after it is packed, they are not unanimous as to the correct ripeness after of the fruit at the time of picking. The returns obtained show very clearly that much of the

T. STOTT & SONS

Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

fruit was too ripe at the time of shipment. The fruit should be in a very firm condition when picked. A Golden Drop Plum should be picked when it has just passed the green stage and is getting color; this can be taken as a guide for other varieties.

Plums are ready for shipment from South Australia from the middle of January to the end of February.

There has been some loss through bruised fruit and much of this has been caused by packing too tightly or too closely. It is necessary to pack the Plums tightly to prevent movement, but not so closely as to cause the fruit to bruise.

In 1926 the Department made a shipment of 5,478 trays per s.s. Westmoreland" on February 17, and 493 trays per s.s. "Largs Bay" on February 20. The whole of this fruit was packed in trays measuring 17 by

11½ by 2 ins., inside measurements. The average number of Plums in each tray was 75.

The parcels were pre-cooled at the Department's depot and sent to the ship's side in insulated vans, and a temperature of 33 deg. F., with 2 deg. variation was provided in the ship's hold during the voyage.

The "Westmoreland" shipment consisted chiefly of small fruit, which was due to the exceptionally dry season, and much of it was far too ripe for shipment. These facts, coupled with the difficulty of prompt marketing of a large shipment, resulted in a disappointing average return, but those growers who shipped the best varieties in firm condition received good prices. The fruit was distributed through most of the principal cities of England, and every endeavor was made to clear the shipment on the best terms.

The smaller shipment per s.s. Largs Bay comprised fair quality fruit and the prices obtained were very satisfactory.

The general average price for the s.s. "Westmoreland" shipment was 3/3½ per tray, and the "Largs Bay" shipment, 8/0½ per tray.

The cost of packing and marketing the "Westmoreland" shipment was:—Tray, 7d.; packing material and labor, 4d.; cartage to store, 3d.; storing and shipping, 4d.; freight, 1/7; London charges, insurance commission, etc., 9d.; total, 3/10.

For every 1/- per tray obtained over 3/4 gross London, it is necessary to add 3-5d. to the charges to provide for extra commission, so if the Plums realised 8/4 per tray the cost would be 4/1 per tray.

FORD SALES.

Another Record Smashed.

During the month of December, 1926, according to the official figures, more Ford vehicles were sold throughout Australia than during any previous month since Fords have been offered for sale in this country.

As Ford sales are ahead of those of any other motor vehicle, this means that more Ford units were sold during December than those of any other make.

The progress made by the Ford Company since the local factory was established at Geelong, less than two years ago, has been quite phenomenal, and this new record certainly suggests that the home market responds to the Ford methods of mass production with their corollary of decreased costs to the motor-buyer.

AN AUSTRALIAN ABROAD.

Mr. Jos. Jordan's Impressions.

Big Market Abroad.

Cr. J. Jordan, J.P., of Burwood, Vic., a well-known fruitgrower of many years' standing, and an appreciated judge at fruit shows, has recently returned from a trip to Great Britain and the Continent. Mr. Jordan was accompanied by his wife. He speaks most appreciatively of the courtesies extended on every hand; the trip was of great educational value; in fact, Mr. Jordan recommends every young man to undertake a trip to the Old Country.

Regarding Australian fruit, Mr. Jordan believes that there is a very big market in Great Britain. More publicity is needed, however, about Australia and Australian industries.

The open air markets of London and the Continent greatly impressed Mr. Jordan. Vast quantities of fruit—as well as other goods—are thus sold. One London street (two-thirds as wide as Bourke-street), had an open air market half a mile long, where goods of every conceivable description and, of course, fruits in abundance—were being sold.

Every facility was provided for this open air and barrow trade, this being in sharp contrast to the restrictions on open air markets in some of the Melbourne suburbs.

There seemed, in Mr. Jordan's opinion, to be a big margin between the wholesale and the retail price. In no place did he see Apples less than 6d. per lb. during his visit—from May till September. A lower price to the public would mean a tremendously increased consumption of fruit.

With respect to marketing conditions generally, Mr. Jordan found it difficult to make suggestions: the trade there, as here, went through defined channels, in the markets there were well established fruit handling firms, which received the fruit from the growers, and sold it to the retailers. The trade, of course, was on an immense scale, and the Australian portion thereof, though of importance—was small compared with the volume as a whole.

The one point on which Mr. Jordan speaks with emphasis, however, is the necessity for better handling. Choice quality fruit was in the process of being loaded on the s.s. "Balarat" at Fremantle, handled so roughly at the ship's side as to do irreparable damage.

Thus, before the fruit left Australia

its market value was heavily depreciated. Mr. Jordan thought this fact had not been sufficiently noted in the recent statements by a member of Parliament.

Mr. Jordan is an optimist. He sees a great future for the Australian industry, and with an enlarged visit of the empire, foresees big develop-

SHIP YOUR FRUIT TO GERALD Da COSTA



Head Offices—
**Floral Hall, Covent Garden,
LONDON, W.C.2**

**Importers and Distributors of
all kinds of English, Colonial
and Foreign Market Produce**

BRANCHES:

COVENT GARDEN, W.C.2.
8, Russell Street.
524, Central Avenue.
Stand, 151, English Flower Market.
Stands, 31, 32, Foreign Flower Market, Apple Warehouses, Jubilee Market.
Tel.: Gerrard, 868 and 5786.
Telegrams: "Geracost, London."
Stands, Nos. 151, 152 and 153.
Spitalfields Market, E.1, and 54 Brushfield Street, E.1.
Telephone: Avenue 8804.
Telegrams: "Spitacost, London."
Apple Warehouses:
Church Passage, Spital Square, London, E.1.
3, 4 and 5, The Arcade, Borough Market, London, S.E.1.
Telephone: Hop, 3373.
Telegrams: "Borocost, London."
G.N.R. Potato Market, King's Cross, N.1.
Telephone: North 1482.
Telegrams: "Kincrocost, London."
13 & 17 Victoria Street, Liverpool.
Telephone: Central 888.
Telegrams: "Geracost, Liverpool," (Facing Commercial Sale Rooms.)
Deansgate, Manchester.
Telephone: Central 7156.
Telegrams: "Geracost, Manchester."
17, Humber Street, Hull.
Telephone: Central 4041 Y.
Telegrams: "Geracost, Hull."
Southampton Docks, (Facing No. 45 Shed.)
Telephone: Southampton 2610.
Telegrams: "Geracost," Southampton.
Eclipse Yard, Westgate, Mansfield.
Telephone: Mansfield 440.
Telegrams: "Geracost, Mansfield."

ments in this splendid country of Australia.

Commenting on the foregoing, another recent visitor, whilst appreciating the facilities for the disposal of fruit, etc., at street markets, pleads for better supervision, as the fruit, meat, etc., at these open markets are exposed to the contamination of flies, dust, etc.



How to get Eggs—Now and through the Moults

LIMP, dejected-looking fowls wandering aimlessly about the yard; so weary that even were a fat juicy worm to pop up from its hole in the ground, it would be quite safe. Are your fowls like that? At this time of the year many are in this condition. It is the combined result of February heat, the approach of the moulting period, and last, but the most important of all, the want of the one, all-sustaining tonic ingredient—assimilable phosphorous. Other tonic ingredients are, of course, necessary, but the one outstanding constituent is assimilable phosphorous. It acts directly on the egg-cells; stimulates them, and so

tones up the whole nervous system of a fowl that heat, and the strain of moulting are so minimised as to have little or no effect. Insects are the most prolific source from which to obtain assimilable phosphorous. Karswood Poultry Spice contains dried and ground insects, and it is because of this, together, too, with other valuable tonic ingredients, that it is so universally used and has become the one great and recognised factor for inducing fowls to lay at this time of the year, and for helping them through a quick and easy moult. Read what Mrs. Askey, of Haberfield, Sydney, says concerning Karswood:—

“Would not be without it”

Dear Sirs,—

I have had such wonderful results from using Karswood Poultry Spice, I think it only fair to add my praise in common with other users. I have only eight laying hens, one or two real old, and the result in laying has been marvellous since I commenced using Karswood. They look so well also. I would not be without it, and intend to rear more in future.

Yours, etc.,

(Sgd.) M. ASKEY.

9 Dalhousie Street, Haberfield.

Note the Economy

- 1/- packet supplies 20 hens for 16 days;
- 2/- packet supplies 20 hens for 32 days;
- 13/- (7lb. tin) supplies 140 hens 32 days.

If your local dealer cannot supply you, write direct to Messrs Henry Berry & Coy. Pty. Ltd., 568-580 Collins St., Melbourne—adding postage—6d. on $\frac{1}{2}$ lb. packets and 9d. on 1lb. packets to the above prices.

poultry and Beekeeping



POULTRY NOTES.

Fattening Surplus Cockerels.

AT THIS TIME of the year many poultry keepers are faced with the problem of disposing of their surplus cockerels. Having separated the sexes it is advisable that the cockerels be fattened and marketed as quickly as possible. With this end in view, the first step is to see that the birds to be fattened are kept in close confinement. They will then commence to put on weight much more rapidly.

The food employed must, of course, be carefully considered. It is advisable to use chiefly soft foods, such as grain meal and table scraps, which, when mixed with liquid, are more easily digested than whole grain. The latter is used where birds have opportunity for exercise, because it lasts longer, and is therefore more sustaining.

Ground Oats is one of the best fattening meals that can be employed, and Barleymeal is also very good. Ground Oats contains 6 per cent. fat, and a considerable amount of phosphates, which help to make the flesh white, and at the same time give it a good flavor.

All meal should be mixed with skim milk where possible; in fact, fattening fowls require plenty of milk, which also has the effect of whitening the flesh. It is said to be desirable to mix the meal with the milk a few hours before feeding. During the time it is standing, a slight fermentation takes place, which it is claimed, assists the process of fattening to a considerable extent.

ONE BREED IS BEST.

Orchardists should confine their attention to one breed only. By doing this there is no crossing of different breeds, and the consequent production of nondescripts, says an agricultural writer.

If the breed decided on is Orpingtons, stick to the one variety, whether it be Buff, Black or White. The

orchardist wants the fowls that will bring him the greatest profit during the year, both in eggs and meat. It is not always the breed that lays the most eggs that brings in the largest profit, as it may cost more to produce the eggs in the one case than in the other, and again, one variety may lay the eggs at a season of the year when they will bring the highest price, while the other may lay most of hers in the spring and summer, when eggs are cheap. In order to bring in the most profit, the farmer's fowls should be one of the active, medium-sized breeds, so as to be able to pick up a large part of their living, which is to be found in abundance on most farms, and which would otherwise go to waste.

If you find a fowl eating her eggs, make a new nest in a dark corner with the top of the nest fairly low. If the darkened nest does not stop her the axe will. The removal of a quarter of an inch of the bird's top beak will often stop egg-eating.

Never feed fowls' mash food on a litter of any kind, as crop troubles will ensue. Always use a sack or board to place it on.

See that birds in confinement are provided with a dust bath of fine dirt, sand, or ashes. This should be slightly damped in hot weather and dry in winter.

Your eggs will always bring 1d. a doz. more if properly graded.

The morning mash should be mixed to a crumbling consistency. To assure this, add the liquid gradually.

Be Punctual.

Feed your fowls at exactly the same time every day. Punctuality does matter. It may not seem important if fowls are fed one morning at 9 o'clock and the next morning at 10, but it is. You know what hours are most convenient. Decide your schedule of feeding times, and stick to the hours, no matter what happens.

New Egg Record.

A White Leghorn in British Columbia has created a world's record by laying 351 eggs during the past year. A Plymouth Rock, in the same test, laid 326 eggs, averaging 30 oz. to the dozen. Ten Leghorns laid 2,946 eggs.

The fewest complaints about their lot come from those who strive hardest to improve their lot.

A REMARKABLE FACT!



IS THE ONLY SELLING FLOOR IN THE
— STATE OF NEW SOUTH WALES —

entirely engaged in the disposal of

POULTRY KEEPER'S PRODUCE ONLY

We fight to maintain the price of the product we handle, and being disinterested in any other farm product, have no need to encourage price cutting to sell other lines. We sell on a commission basis only, and the greater the price realised the more it is to our advantage

Essentially a Poultry Farmer's Selling Floor

The Australian Poultrymen's Trading Organisation

TURKEY, EGG AND POULTRY SALESMAN

7, 8 and 9 MUNICIPAL POULTRY MARKETS, ULTIMO
ROAD, HAYMARKET. Phone: City 1154.

Crate and Egg Case Labels Posted on Application.

"To Choose the Best is Wisdom"

PROTECT YOUR PROFITS

By

Sending your Fruit to Market

Carefully Sized

Carefully Packed

Carefully Branded



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

The old time methods of marketing are obsolete. The public DEMANDS that their fruit shall be given them in PERFECT CONDITION & UNIFORM SIZE

Your certain way of Protecting your Profits is to use a "LIGHTNING" Fruit Grader
This is the only method to ensure a Perfect Pack of Uniform Size and Unvarying Quality
Made in Models to suit all conditions

Catalog on Request

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

BEES AND FRUITGROWING.

Bees are necessary for successful fruitgrowing, urges an American publication, and where there are not plenty of wild or domesticated bees in the neighbourhood the fruitgrower cannot do better than to establish a few colonies in his orchard.

Bees are essential for the proper pollination and fertilisation of the flowers; without them satisfactory crops are not possible. Wind, rain, or other agencies will not take the place of insect pollination, and bees are the best insects for the work.

Bees also make a profitable sideline when they are given reasonable care.

The site upon which the apiary is placed need not necessarily be located actually in the orchard. A small allotment of ground may be selected where bees are not likely to be disturbed when cultivating. The land should be fairly level, well drained, and for preference the hives should face the north-east. A trellis of Passion vines around the plot makes an ideal windbreak, and affords protection to the hives both in summer and winter.

The equipment required for the running of a small apiary is neither exception to the hives both in summer subject of bee-keeping is obtainable

from the Department of Agriculture, but spring or early summer is the best time to make a start.

HONEY BLENDING.

Too Many Varieties Produced.

In the course of an address on the honey industry and its commercial possibilities, at Bendigo, in December, the President of the Apiarists' Association of Victoria (Mr. H. F. Miller) said that the honey flora of the Commonwealth excelled that of any other part of the world. Australian honey had a greater concentration and food value than that produced in any other country. The flora of the native trees of Australia were unique in that they all blossomed, and were suitable for honey production. Bees were of great value as fertilisers for economic plants, and it was important that Australia should encourage bee-farming. The average production of honey from frame hives was 62½ lb. a year, and from box hives 12½ lb. Scientific methods had increased the production and also the quality. Production in Victoria last year amounted to more than 4,000,000 lb. of honey and 47,000 lb. of beeswax. In 1918, Victoria exported £200,000 worth of honey, but the trade had been ruined

by improper methods of marketing. Apiarists were making a determined effort to place the marketing of honey on a sound basis, and plans were being completed for export on a large scale. At present, America was the most highly organised and the largest exporting country. The consumption of honey a head of population in Australia was 1 lb., and in America 2½ lb. to 3 lb. a year. In Australia so many varieties of honey were produced, making it difficult to maintain a uniform standard. This could be overcome by proper methods of blending and standardisation. There were in Victoria more than 47,000 hives, and 3,000 beekeepers. In New Zealand, under Government control, the quantity of honey exported had increased from 132 tons in 1914 to 815 tons in 1925. There was need in Australia for similar control of the export trade to ensure standardisation of product for overseas trade.

If we are ever to enjoy life, now is the time—not to-morrow, nor next year, nor in some future life after we have died. The best preparation for a better life next year is a full, complete, harmonious, joyous life this year. Our beliefs in a rich future life are of little importance unless we coin them into a rich present life. To-day should always be our most wonderful day.—Thomas Dreier.

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS. FRUIT MERCHANTS, AGENTS, EXPORTERS.

Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.
Rule & Beavis, Fruit Exchange.

VICTORIA.

Melbourne.

Fred, J. Andrew, 416 Little Collins St., Melbourne.
Clifford Barnsbee, 323 Bourke St., Melbourne.
Producers' Dist. Society, Western Market.
Cave, F. & Co., Melbourne.
H. G. Colombie, Temple Court, Little Collins St., Melbourne.
Davis, J., Western Market.
Dennys, Lascelles Ltd.
Fruitgrowers' Depot, 471 Flinders Lane, Melbourne.
Lister, G., Western Market.
Mills, A., & Sons, Western Markets.
Mills, J. B., & Co., Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Fang & Co. Ltd., H. L., Little Bourke St., Western Market.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Wade & Co., H. M., 471 Flinders Lane.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.
J. Younger, Melbourne

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Finlayson & Son, Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters, and at London.

Lannceston.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Auckland.

Turners and Growers Ltd.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.
Reilly's Central Produce Mart.

GREAT BRITAIN.

Bristol.

Bristol Fruit Brokers Ltd.

Cardiff.

Connelly, Shaw & Co. (also Ireland).

London.

M. Isaacs & Sons Ltd.
Margetson & Co. Ltd., Covent Garden
Monro. Geo. Ltd., Covent Garden.
T. J. Poupart Ltd., Covent Garden.
Ridley, Houlding & Co., Covent Garden.
Swann & Co., 3 Salter's Hall Court

Liverpool.

Jas. Adam. Son & Co., Fruit Exchange.
MacGeorge & Jardine.

Hull.

White & Son Ltd.
B. & J. Shaw.

Coventry.

Boswell Bros. & Davs.

Manchester.

Manchester Ship Canal: Australasian Representative, Capt. W. J. Wade, 8 Bridge St., Sydney, N.S.W.

Glasgow.

Russell, Turnbull & Co

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Astheimer, P. H. & Son, Fruchthof.
Luiten, J. H. & Sohn, Hanburg.
Fruchthandel Gesellschaft, Fruchthof.
Sier, Aug. Fruchthof Kreis J. B. Müller & Co., Bank House, Melbourne.
Timm & Gerstenkorn.

HOLLAND.

Amsterdam & Rotterdam.

Algemeene Vruchten Import Maatschappij.

DENMARK.

Copenhagen.

Kobenhavns Fugtauktioner.

MARKETS.

Ottawa, Canada (2/12/26).

The Canadian Fruit Trade Commissioner in England reports sales from Glasgow, Liverpool and Cardiff, boxed Apples realising from about 7/- to 16/-.

New South Wales.

Sydney (28/1/27).

Apples, local, dessert, choice, 16/- to 20/- per bushel case; medium, 10/- to 14/-; small, 4/- to 8/-; cooking, choice, 14/- to 16/-; medium, 8/- to 12/-; small, 4/- to 6/-; Victorian, Yates, choice large, to 20/-; medium, 11/- to 12/-; small, 6/- to 8/-; Tasmanian, Alfristons and Alexanders, 12/- to 14/-; Apricots, Tasmanian, choice, to 10/-; others, 4/- to 8/- per half-case; Bananas, extra special, 26/- to 30/- per case; special, 22/- to 24/-; choice, 18/- to 20/-; standard, 8/- to 14/-; Citrus Fruits—Lemons, local, choice, 20/- to 25/-; medium, 16/- to 18/-; small, 10/- to 14/-; Oranges, choice, 15/- to 16/-; medium, 12/- to 14/-; small, 4/- to 8/- per bushel case; American lemons, 45/- to 50/-; Grapefruit, 30/- to 40/-; Figs, 5/- to 7/- per 12 lb. box; Grapes, white, 6/- to 12/-; black, 12/- to 15/-; extra choice, to 20/- per half-case; Nectarines, local, choice, 10/- to 12/- per case; medium, 5/- to 7/-; small, 3/- to 5/- per half-case; Victorian, 12/- to 18/- per bushel case; extra choice, to 22/-; Passion-fruit, local, choice, 7/- to 8/-; medium, 4/- to 5/-; small, 3/- per half-case; Peaches, extra choice, 10/- to 12/-; choice, 7/- to 8/-; medium, 5/- to 6/-; small, 3/- to 4/- per half-case; Victorian, 7/- to 12/-; extra choice to 16/- per bushel case; Pears, local, Williams, 4/- to 10/-; extra choice, 12/- to 14/-; cooking, 4/- to 6/-; Victorian, Williams, 10/- to 13/-; Pineapples, Queens, 10/- to 16/-; Ripleys, 8/- to 12/-; Plums, choice, 11/- to 12/-; medium, 4/- to 6/-; small 2/6 per

FRUIT SHIPMENTS — TO NEW ZEALAND

REILLY'S CENTRAL PRODUCE MART LTD., DUNEDIN

advise Growers of CHOICE FRUITS to ship to Dunedin

REILLY'S anticipate a keen demand for all lines of choice Fruit arriving on this market between the months of July and December.

REILLY'S offer Fruitgrowers their faithful service and will be pleased to advise Fruit Shippers the probable prices available and prospects of making suitable sales.

Cable or write to **Reilly's, Dunedin.** Codes used—BENTLEY'S, MARCONI'S, WESTERN UNION, A B C 5th & 6th Ed.

REILLY'S GUARANTEE FAITHFUL SERVICE TO ALL CONSIGNORS.

half case; Victorian Angelinas, 6/- to 14/-; Ballenas, 12/- to 21/-; Wicksons, 11/- to 15/-; Prunes, 11/- to 14/-.

Victoria.

Melbourne (29/1/27).

The following are the prices ruling at the Western Market:—Apples, choice eating, 12/- to 17/- per case; cooking varieties, 9/- to 10/-; Bananas, special, 30/- to 34/-; choice, 23/- to 26/-; standard, 16/- to 19/-; Pineapples, Queen, 16/- to 18/-; Ripleys, 11/- to 14/-; Cucumbers, 8/- double; inferior lower; Citrus Fruits—Valencias, 18/- to 22/-; Lemons, 15/- to 20/-; Peaches, special, white flesh, 16/- to 20/-; medium, 10/- to 13/-; yellow flesh, 5/- to 8/-; Pears, W.B.C., green, 10/- to 12/-; Passion Fruit, 10/- to 15/- half case; Tomatoes, choice, 6/- to 9/-; inferior lower; Plums, 4/- to 8/- case; Grapes, Sultanas, choice, 13/-; others, lower.

South Australia.

Adelaide (15/1/27).

Apples, eating, 10/- to 12/- a case; cooking, 8/- to 10/-; Apricots, 14/- to 15/-; Bananas, 36/- to 45/-; Lemons, 20/- to 22/-; Oranges, Common, 12/-; Passion Fruit, 40/-; Peaches, 12/- to 14/-; Pears, eating, 10/-; Pineapples, 25/-; Plums, dark, 8/-; Strawberries, 1/- lb.

Tasmania.

Hobart (15/1/27).

Apples, eating, best lots, 8/- to 9/-; medium, 5/- to 7/-; cooking, 6/- to 7/6; Cherries, Florence, 20/- to 22/- per half case; Plums, 2/- to 2/6; Apricots, best large, hard quality, 7/- to 8/-; medium and over-ripe, 5/- to 6/-; Peaches, best lots, 8/- to 9/-; small and over-ripe, 5/- to 6/-.

Queensland.

Brisbane (18/1/27).

Lemons, prime, 8/- to 10/-; others, 5/- to 7/- a quarter case; Passion Fruit, 4/6 to 9/-; Peaches, 3/- to 6/- a half bushel case; Grapes, black, 3d. to 4d. lb.; white, 3d. lb.; Pears, 10/- to 14/- case; Apples, 10/- to 15/-; choice, 16/- to 18/- a bushel case; Pineapples, smooth-leaf, prime 7/- to 8/-; others, 6/- to 7/- a case; rough-leaf, 6/- to 8/- case.

Western Australia.

Perth (15/1/27).

Apples, cookers, flat cases, 4/- to 12/6; Oranges, dump cases, 10/- to 17/6; flats, 8/- to 13/-; Lemons, flats, 5/6 to 14/-; Passion Fruit, quarter cases, 4/- to 5/-; Peaches (prime), flats, 11/6 to 18/6; others, 8/- to 10/6; Apricots, prime, flats, 10/6 to 15/3; others, 7/- to 9/6; Plums, Santa Rosa, flats, 6/- to 13/-; Shiro, 3/- to 9/-; Climax, 3/6 to 12/6; Burbanks,

3/- to 10/-; Wickson, to 13/-; Nectarines, prime, flats, 11/- to 18/6; others, 7/-; Grapes (open cases), white, 7/- to 10/6; red, 8/- to 13/-; Pears, Bartlett's, flats, to 10/3.

New Zealand.

Dunedin (21/1/27).

Messrs. Reilly's Central Produce Mart report under date, 21/1/27, prices as follow:—

Apples, Doherty's, 13/-; Red Astrachans, 12/-; new seasons Gravensteins, 11/6 to 13/-; Irish Peach, choice, 14/-; cooking, 10/6; Lemons, Californians, 300/360's, Festive Brand, 30/-; Mission, 32/-; Oranges, American Navels, to land, 37/6; Grapefruit, 36/6; Strawberries, choice, 1/8 to 2/3; good, to 1/6; jam, over-ripe, 9d., 10½d.; Cherries, choice, 1/- to 1/8; cooking, 4d., 6d.; Beauty of Bath Apples, 7d., 9d. Gooseberries, green, 2d., 3d.; ripe, 6d. to 9d.; Raspberries, 7½d. to 11d.; pottles, 10d. to 1/2; Red Currants, 5d., 7½d.; black, 4d., 7d.; white, 3d.; Loganberries, 7½d., 10d.; local Grapes, 2/3; Cherry Plums, 5d., 7d.; Early Rivers Plums, 4d., 6d.; choice desserts, 6d., 8d.; Apricots, choice, to 9½d.; mediums, 6d., 7d.; Peaches, jam, 4d., 5d.; desserts, 5d., 8d.; Walnuts, choice Akaroas, 1/-; Peanuts, choice, 5d.

Facts Are Stubborn Things

"Climax" Black Shell Cartridges

enabled Mr. J. M. Allan to make the break thus reported in "The Sporting Globe," of 19/1/27.

RECORD BREAK BY J. M. ALLAN

Shooting in the Western District recently, Mr. J. M. Allan, President of the Melbourne Gun Club, made a most remarkable sequence of kills at trapshooting matches conducted by the Gun Clubs at Warrnambool and Mortlake. Details of his shoots are as follows:—

Jan. 7 (at Warrnambool)—26 starlings from 25 to 38 yards' rise.

Jan. 8 (at Mortlake)—27 sparrows and starlings from 22 to 28 yards' rise.

Jan. 12 (at Warrnambool)—13 pigeons from 28 to 38 yards' rise.

Jan. 13 (at Warrnambool)—17 pigeons from 28 to 38 yards' rise.

It will be seen that, up to this point, Allan had an unfinished break of 33. This made him a winner in no fewer than ten consecutive events, and he added two kills in the £250 pigeon match at Warrnambool on January 14 before missing out. His completed break was therefore 35.

This tremendous run at three different varieties of birds at ranges mostly so extreme probably constitutes a world's record for live bird shooting over traps. The championship marks for sparrows, starlings and pigeons are 23, 25 and 30 yards' rise respectively, and very few shooters are considered good enough to be handicapped as much as even one yard behind these. Nevertheless, Allan scored many stops from 5 to 8 yards behind the championship distances. He used an Ithaca gun, and Climax black shell cartridges.

What these famous cartridges have done at the traps they will also do at ducks. BLACK SHELLS IN THE BELT MEAN BLACK DUCKS IN THE BAG.

ASK YOUR LOCAL STOREKEEPER

J. MUES, WHOLESALE DISTRIBUTOR **Latrobe Street, Melbourne**



Tasmania

Orchard Notes :: Market Prospects

TASMANIAN NOTES.

(By Our Correspondent.)

THE PROSPECTS for the berry crops anticipated earlier in the season have been fulfilled, and record yields have been harvested. During the end of December, and commencement of the New Year, some very hot weather was experienced, the temperature being frequently above 90 degrees F. Apples and Pears are well forward, but at time of writing the continued dry weather is retarding their development, especially in the districts north and east of Hobart.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co., Ltd., Scottish Shire Line of Steamers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

Export Control Bill.—At the request of the Chairman of the State Fruit Advisory Board (Mr. N. Campbell, M.H.A.), the Minister for Markets and Migration, Mr. T. Paterson, will visit Tasmania for the purpose of meeting fruitgrowers and discussing the present disabilities experienced in the marketing of fruit.

Mr. Paterson will visit the principal fruit centres, in company with members of the Advisory Board, during the first week in February, and endeavor to obtain an expression of growers' opinion in this matter. An opportunity will also be presented to outline the provisions of the Dried Fruits and Butter organisations.

Insects Attacking Fruit Crops.—The season has proved extraordinarily suitable to the breeding of insect pests of the leaf-eating type.

The majority of country districts report damage to crops from cater-

pillars, whilst early in January severe infestations of beetles were experienced in some of the Raspberry and Strawberry centres, in some cases portions of the plantations being stripped bare of all foliage and fruit.

The visitations were quite local in occurrence, and owing to the nature of the fruits attacked, could not be safely treated with arsenical sprays or other insecticides.

Bitter Pit.—A cabled report has recently been published in the press in respect to the investigation carried out two years ago by Prof. A. J. Smith regarding the occurrence of this disease in Tasmanian orchards. The results of such work are said to be conducive to the theory that it is accentuated by severe pruning, or intensive irrigation previous to the fruits maturing.

Whilst these conditions have always been recognised as likely to cause the development of "pit," they cannot be relied upon as being always conducive to the disease.

There are areas in Tasmania of susceptible varieties that annually receive a severe pruning, which are entirely free from "bitter pit," whilst irrigation, except by natural means, is practically confined to a few orchards in the Derwent Valley, and the disease is no more prevalent in these than some of the drier districts, where orchards are receiving solely cultivation to conserve the moisture during the summer months.

The writer, who has made a close study of the occurrence of the disease over a number of years, has found that it may occur under almost any conditions and treatment, and will successfully refute most theories as to its cause or origin.

S.S. "Port Adelaide" Shipments, 1926.—A cable has been received from London, that the Commonwealth and Dominion Line, owners of the s.s. "Port Adelaide," have placed claims in regard to damaged fruit consignments, in the hands of an average adjuster, with a view of making some compensation to the growers who suffered from losses occasioned in the carriage of their fruit.

The s.s. "Port Adelaide" loaded at Hobart and Beauty Point a total of 138,000 bushels, and portion of the fruit in No. 2 lower hold was reported as showing signs of "brown heart" upon being discharged at Liverpool.

The other portion of the cargo, which was landed at Hamburg, Hull

and Southampton, comprising the greater bulk of the shipment, was in good condition.

English Market Prospects.—Cabled advices received from London indicate that Apple importers are taking a hopeful view of the Australian outlook for the coming season.

One of the leading firms says that the season should be successful, and that growers should be able to regain some of the losses incurred last year.

This view is based on the following premises:—

"The reduced quantity exportable from the mainland of Australia, and Tasmania."

"The severe frosts have damaged the Spanish Orange crop."

"The greatly improved industrial position."

"The reduction in freights."

Against these favorable factors, however, it must be remembered that

Fruit Shipments
United Kingdom
and the Continent

W. D. PEACOCK
& CO.

24 Southwark St., London Bridge,
LONDON, S.E. 1.
AND HOBART, TASMANIA
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

the American crop is a large one, and competitive consignments are bound to extend well into the Australian season.

[Later reports indicate that the American crop has been considerably reduced, and there is not likely to be as large a carry-over into the Australasian season as usual.—Ed. F.W.]

TASMANIAN APPLE CROPS.

(By P. H. Thomas, State Fruit Expert.)

As the season progresses it is evident that the Apple crop will exceed the November estimate.

Owing to the medium crops, most varieties are forward in development and the fruits should be of good average size, with a lesser proportion of the smaller sizes than was experienced with the heavy crops of last season.

Except in a few instances, where spraying and cultivation have been almost wholly neglected, the fruits are generally clean and free from disease.

On the basis of a normal crop being 3,500,000, it is estimated that the production will now be in the vicinity of 2,450,000 bushels (70 per cent.).

From last season's crops, which were above normal, over 2,100,000 packages were sent to overseas markets, and 1,700,000 to interstate markets.

FEBRUARY ORCHARD NOTES.

(By P. H. Thomas, State Fruit Expert.)

(For Cultural Notes, see p. 78.)

Apricots.—This season, owing to shortage of crop, only a small quantity of fruit has been forwarded to mainland markets.

From the reports that have been received, this has generally arrived in good condition, with the exception that one or two consignments have been forwarded in a too immature condition. Fruit which is intended for export to interstate markets should be fully developed and showing at least the first signs of color change from green to yellow. Reports also show that very few growers grade the fruit, but export all sizes of fruits in the same case. Such consignments do not show to advantage when opened up in the markets and compare unfavorably with the carefully packed and graded consignments of stone fruits that are being received from the irrigation areas.

Apples.—The first boat which will load fruit for overseas markets is due to arrive at the end of February. Careful attention must be given this season to ensure that no fruit goes forward showing traces of arsenical sprays. It is evident that the British authorities are still keeping a close supervision over fruit admitted into the United Kingdom. Apart from the individual opinion as to possible danger from such causes, it is advisable for every grower to ensure that no neglect on his part may prejudice the sale of the whole of the Tasmanian crops.

Varieties that should be fit for shipping in the earlier boats are as follows:—Cox's Orange Pippin, Ribston Pippin, Worcester Pearmain, Gravenstein, Mobb's Codlin, Alexander, and Duke of Clarence. I would like to stress the importance of excluding from the early shipments varieties that are in an immature

condition. The importance of opening up the overseas markets with good quality fruit is realised by all. The first few cases of fruit that arrive have a big influence on the prices of those following. No risks must be taken of a proportion of the first shipments arriving in a shrivelled and unsatisfactory condition through being too immature at the time of picking.

Orchardists!

Hardwood Dump Fruit Case Shooks

6d. each in truck loads

F.O.R. Bairnsdale

A. Palmer & Co.

Bairnsdale Sawmills
and Produce Stores

Bairnsdale, Victoria

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and —
economical on the market —
We manufacture a complete range —
of Sprays for the Orchardist —
including Arsenate of Lead (paste and powder), Lime Sulphur, Red Spraying Oil, Copper Soda Mixture, Benzole Emulsion, Spray Spreader etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES
Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

Grading and Branding.—Owing to the delay of the Customs authorities in advising whether the amendment which was recommended by the Australian Fruit Council and Conference of Ministers of Agriculture to the "Plain" grade, will be brought into effect this season, the position in regard to grade requirements is not yet known.

However, it is certain that the brands will not be altered, the designations "Special," "Standard," and "Plain" applying to both "overseas" and "interstate" markets.

This year the "guarantee of contents brand" will not be necessary for fruit forwarded to interstate markets, viz.:—(Victoria, New South Wales and Queensland). Growers must understand, however, that consignments will only be permitted to enter these States in the standard bushel and half-bushel cases.

LYMINGTON, TAS.

Apple Crop.—The present prospects of the coming crop have improved within the last two months, and I should say from observation, that whereas two or three months ago it was computed to be a 50 per cent. crop, it is now a 65 or 70 per cent. one; fruit large, and for the most part free from spot. Rain is now rather badly wanted, and harm is likely to result if it does not come within the next month.

Pear Crop.—Normal

—E. B. Pixley, Lymington South.

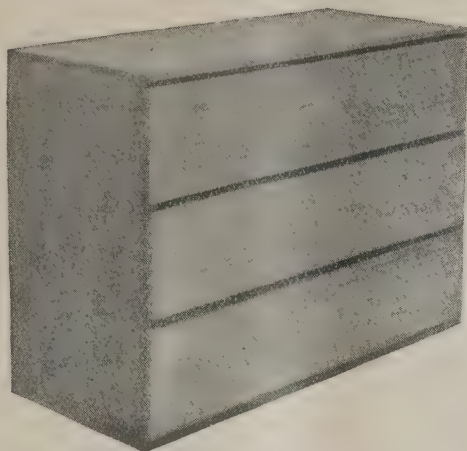
ARSENIC ON APPLES.

Dipping to Remove Spray Residue.

Writing in the "California Cultivator" of the handwiping of Apples and Pears to remove spray residue, Mr. Jack Klein says:—This year, on the advice of Dr. J. R. Magness of the United States Department of Agriculture, Mr. J. W. Mason, of Berwick Orchard, Carmel River, Monterey Peninsula, California, constructed a couple of simple dipping vats, and all of the fruit was dipped instead of being hand wiped, and the cost was only about one-sixth that of wiping. These vats were roughly made of redwood boards, and each one held 200 gallons of solution. In the first was a one per cent. solution of hydrochloric acid. The fruit was placed in loosely-woven baskets of Chinese manufacture which are almost impervious to moisture and immersed in the diluted hydro-chloric acid bath.

It was allowed to remain until the spots of lead arsenate and blue stone had been changed chemically and had disappeared. After that the baskets were placed on racks over the vat and allowed to drain. The acid bath was changed after 600 boxes had been dipped.

As soon as the bulk of the acid had drained off, the baskets were lowered into the second vat which contained a solution of one-half a pound of common baking soda dissolved in 200 gallons of water. The soda rinse neutralised any acid remaining on the Pears and after they had drained again they were placed in boxes and taken to the packing house.



Australian Apple and Citrus Dump Bushel Case.

SOFTWOOD CASES

(IMPORTED)

Cheaper than hardwood if exported.

Cut to Australian Standard Sizes

DUMP BUSHEL with one piece top and three equal piece side

UPRIGHT BUSHEL with one piece top and three equal piece side

DRIED FRUIT CASE with one piece side and two equal pieces tops and bottoms

CANNED FRUIT with one piece side and two piece tops and bottoms

SOME ADVANTAGES IN FAVOR OF IMPORTED CASES

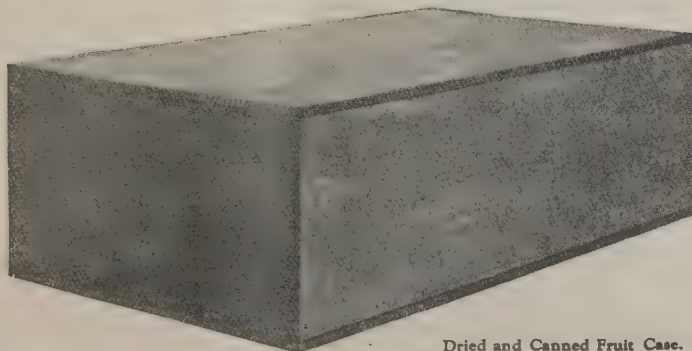
- (1) Full drawback of duty allowed on all cases exported.
- (2) 1/3rd less freight than on Hardwood cases.
- (3) 25% rebate on rail freight for full trucks.
- (4) All timber cut to exact sizes making it an easy matter to assemble a symmetrical case.
- (5) Every piece of timber fit and ready for use, thereby eliminating waste.
- (6) Can be supplied in shooks or made up and branded.



Upright Bushel Case with Centre Partition.

Particulars from the Largest Importers

Overseas & Interstate Trading Co. Ltd.



Dried and Canned Fruit Case.

First Floor,
Temple Court,
Melbourne

Phone Central 9110

Also
King William Street,
ADELAIDE

Are You
Interested in
Having Your
Shipments
Arrive in
Good
Condition



For Full Particulars Address

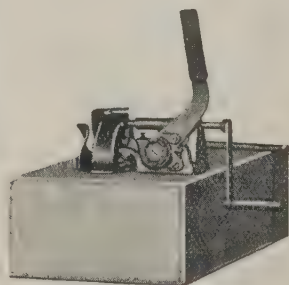
Gerrard Wire Tying Machines Co. Pty. Ltd.

FACTORY & HEAD OFFICE :

119-125 Hawke Street, West Melbourne

also

Reiby Chambers, Reiby Lane, SYDNEY, (N.S.W.)
Cr. Eagle & Charlotte Streets, BRISBANE, (Q'LAND)
Pirie Chambers, Pirie Street, ADELAIDE, (S.A.)
Southern Cross Chambers, Howard Street, PERTH, (W.A.)
Cr. Davey & Murray Street, HOBART, (TAS.)
68-70 Taranaki Street, WELLINGTON, (N.Z.)



Export of Fruit.

DECENTRALISATION IN BRITISH MARKETS.

(To the Editor.)

Sir,—At Bristol, on December 4, Mr. Bruce, the Australian Prime Minister, attacked England's tendency to collect the greater part of the country's imports at the Port of London, and distribute them throughout the country from that centre; other impartial investigators have similarly criticised this policy during recent years.

"Inevitably this problem must be solved," said Mr. Bruce, "or disaster awaits us. The great tragedy is that London is a 'bottle-neck' port through which everything flows; but the position is being gradually altered, and other ports are taking a greater share in the distribution of the country's imports to the advantage of the people generally. It is natural that goods arriving at one great port for the whole country must cost the consumer more."

He went on to say that "he had found that meat in a northern town could have been bought £7 per ton cheaper if shipped direct. One firm had paid £35,000 a year above what would have otherwise been the case if the meat had not been discharged wholly in London," and concluded, "we are determined that the maximum profit shall reach the producer, and to ensure this we are tackling the problem of reducing the spread between the producer and consumer."

Fruitgrowers and others interested in the disposal of primary produce will agree that, under present conditions, economic pressure demands that any unnecessary expense in transport and handling charges should be eliminated, and for this reason a larger measure of decentralised marketing and distribution is overdue. Why not adopt the advice tendered by the Prime Minister, therefore, and ship say half of this season's surplus fruit to one or other of the British out-ports.

The up-to-date equipment and layout of the Manchester Docks, combined with the geographical position of the port, make it possible to distribute produce throughout the densely populated areas of the northern and midland counties of England more rapidly and at lower cost than from any other port.

Ample tonnage is likely to be available during the forthcoming export season, and growers and exporters should make their space requirements known to the steamship agents as early as possible. If any difficulty is experienced in securing the reservation of tonnage direct to Manchester, the undersigned will be pleased to take the matter up in the proper quarters immediately on receipt of advices to that effect.—Yours faithfully,

Wm. JNO. WADE.

Australasian Representative of the
Port of Manchester,
8 Bridge-street, Sydney.

Fortunately, we all remember the good times we have had long after the disappointments are forgotten.

PREFERENCE FOR AUSTRALIAN FRUIT.

By setting up an admirable example of Imperial preference, the Lambeth (London) Board of Guardians has given the lead to other public bodies. The Board's contracts during the last six months have stipulated that only British or Dominion products should be supplied, and now the stipulation has been extended to include fruit; and henceforth only Empire fruit will be entertained by the Guardians. In a recent interview, an official of the Board said: "We came to a decision six months ago that we must do what we could to help Empire trade. Apart from sentimental reasons, our latest decision has been justified by the experience of the quality of Empire fruit. Every Christmas we make hundreds of Christmas cakes. This year they will be made entirely with Australian Raisins and Sultanias, and other ingredients too, will be all-British." Our compliments to Lambeth!—"Imperial Food Journal."

THE "FRUIT WORLD" IN SOUTH AFRICA.

The Officer in Charge, Cape Town Branch of the British Department of Overseas Trade, has written to thank the "Fruit World" for the supply of complimentary copies. He adds: "The reading-room attached to this office has become very popular with members of the commercial community, owing to the large display of trade journals, for which thanks are due to you and other publishers."

DENNYS, LASCELLES LTD.

Temple Court, 422 Collins St., Melbourne

Head Office and Wool Stores at Geelong.

Exporters of Fresh and Dried Fruit to England and the Continent
also Citrus Fruit to New Zealand

Personal Supervision of all Consignments at Port of Shipment. Prompt Returns.

AGENTS FOR AMERICAN FRUIT WRAPPING PAPER

CARO AND CARONITE WRAPPERS

have proved to be preventives against Apple Scald and other diseases which develop in Cool Store or Refrigerator on both Citrus and other fruits.

We also supply Sulphite Paper, Woodwool, Cases (Hardwood or Canadian), Nails, etc., in large or small quantities.

IRRIGATION IN U.S.A.

Reorganisation of Service.

Losses Written Off.

THE irrigation service of U.S.A. was recently reorganised. Twenty-four years ago the U.S.A. Government advanced money for irrigation projects in fertile but waterless regions, the settlers agreeing to repay to the Government by annual instalments the construction and operating costs. The money thus repaid, as well as funds from the sale of lands to be placed in a "revolving fund" to be used again and again for new developmental works. "The California Cultivator" for November 13, 1926, gives an interesting review of the whole position. The Government spent £41,000,000 on 28 irrigation—or as it is termed, "reclamation"—projects; three years ago a big investigation was undertaken, and it was discovered that the whole system was on the verge of disaster; the fund had failed to "revolve," and the Government was confronted with a heavy loss on its capital expenditure; work had been built on worthless lands; the costs of the projects had more than doubled the original estimates.

On June 30, 1923, the irrigation service had over £26,000,000 in outstanding obligations to the Government, and for the completion of authorised works another £24,000,000 was needed.

A receiver was appointed. The first step was a complete re-appraisal to correct the mistakes, reform the policies, and entirely reorganise the bureau. Legislation was enacted extending the time for repayments from 20 to 40 years. The bureau was then placed on a basis of business efficiency to establish a "home making" branch of the Government.

In the reorganisation, large savings were effected in the system of conducting the irrigation service. The human element—the farmer—had previously been overlooked, and there was open discontent. Now every case is dealt with on its merits. On worthless lands farmers were relieved of a

burden totalling £7,000,000. Farmers in groups have taken over the responsibility of projects in defined areas. Lands were classified into six sections according to their productivity.

Under the new policy the projects are being shrunk, and the infertile, non-irrigable, seeped, and otherwise unproductive farms eliminated. Farmers on unprofitable lands are permitted to exchange them for productive farms.

Management and operation now are being transferred to the farmers themselves on the projects. Already contracts have been made or are in process of execution with seven projects to take over their own operation, the annual charges due the Government to be paid in a lump sum. An annual saving of approximately £120,000 so far resulted from the transfer of the operation and maintenance of these projects to the farmers.

In 1923 a spirit of financial repudiation existed among settlers. Un-collected charges due the Government had reached the staggering total of £1,737,000. This was due in a measure to a prevailing practice of deferring payments to entire divisions and districts on projects regardless of the number of prosperous farmers amply able to pay.



GIBBS, BRIGHT & CO.—See Page VI

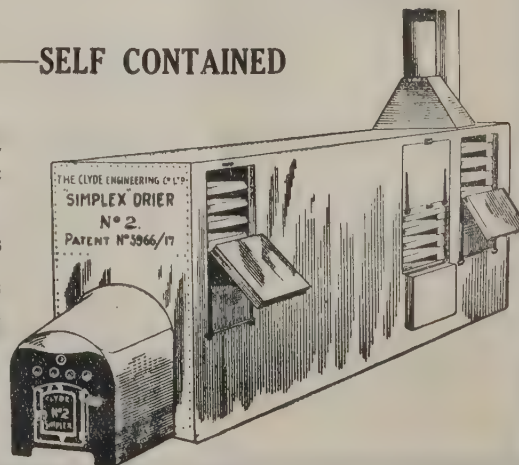
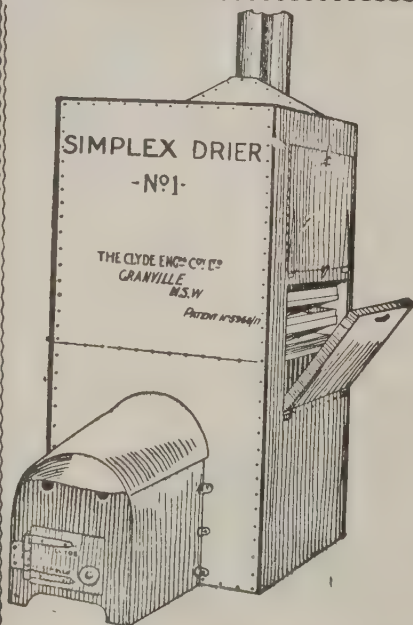
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
OF
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

Under the old regime men without experience took up lands. Now applicants must be approved by experience, character, and capital. Settlers must now have £500 in cash. Efforts are being made to supply capital at low interest to farmers in distress.

Instead of projects being constructed in unsuitable regions, accurate information is now compiled in advance, soil surveys are conducted, and marketing possibilities are explored.

Under the present law drafted in the interior department, no new project or new division of a project shall be approved for construction by the Secretary of the Interior until information in detail shall be secured by him concerning the water supply, the engineering features, the costs of construction, land prices, and the probable cost of development, and he shall have made a finding in writing that it is feasible, that it is adaptable for actual settlement and farm homes, and that it will probably return the cost thereof to the United States.

A large number of farm units of varying acreage abandoned or never occupied were found on the various projects, three years ago. These included thousands of acres of land lying idle for which irrigation was available, but no settlers to farm them.

Settlement of these vacant farm units is the principal problem now confronting Federal reclamation. The Bureau is now concentrating its attention to this problem.

A 37½ LB. BUNCH OF GRAPES.

Some little excitement was caused in Covent Garden Market on October 6, says the "Fruit, Flower and Vegetable Trades' Journal," when Mr. Groves, of James-street, received a bunch of Belgian Royals weighing 37½ lbs. It was purchased by Messrs. Mash and Austin Ltd., for £37/10/-, and exhibited in their establishment at Glasshouse-street. It was offered and accepted by the Lady Mayoress for her bazaar to be held at the Mansion House in aid of Bart's Hospital.

CALCIUM CYANIDE FOR ORCHARD AND GARDEN PESTS.

Last season a considerable amount of experimental work was carried out by the Biological Laboratory of the New Zealand Department of Agriculture with calcium-cyanide dust, and good controls were secured against Bronze Beetle, Apple-leaf Hopper, Rose Aphis, and Woolly Aphis, but not Red Mite.

CAUSE FOR REJOICING.

By Medicus.

(It is suggested by a contemporary that the failure of the Apple crop should prove very beneficial to the medical profession.)

The times are hard, and living's high,
And I'm half-starved, without a lie,
But I don't care a Fig, not I—
The Apple crop has failed.

By every tradesman in the town
I'm always greeted with a frown,
But that no more makes me feel
down—

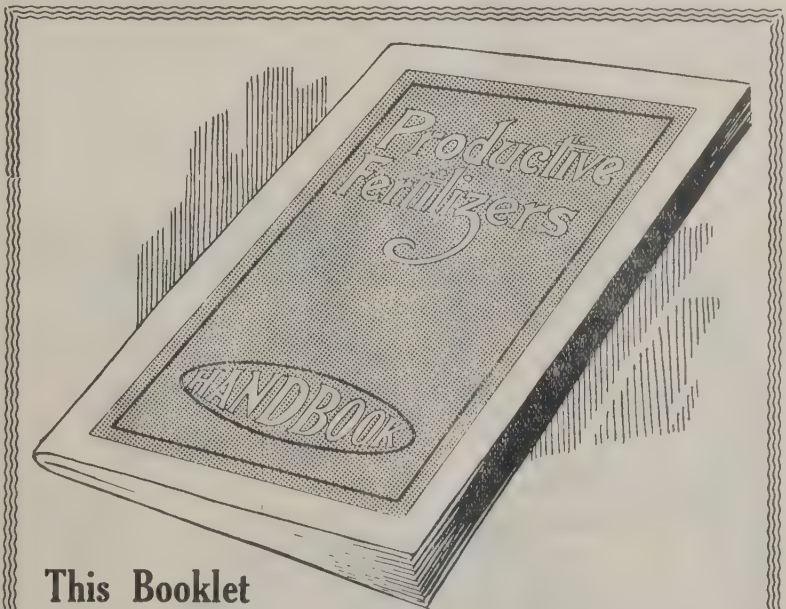
The Apple crop has failed.

My coat is shabby, so's my hat;
I'm quite the opposite of fat;
But I shall soon amend all that—
The Apple crop has failed.

I've pawned my watch, and sold my
car;
My boots and gloves most ancient are;
But from despair I'm very far—
The Apple crop has failed.

For soon I know that I shall be
Lapped in the utmost luxury,
Since folks must need me now, you
see,
The Apple crop has failed.

—Toby, in the "Nurseryman and
Seedsman" (England).



This Booklet

which was compiled primarily to advertise

SULPHATE OF AMMONIA

gives a wealth of information concerning fertilisers generally, and its circulation has helped considerably in the education of the orchardist to a better-paying fertiliser practice. Many copies have been circulated to students of agriculture and horticulture throughout the Commonwealth and New Zealand, and some significance must be attached to the greatly increased sales of Sulphate of Ammonia since its publication

"Productive Fertilisers" is yours for the asking

The Australian Sulphate of Ammonia Propaganda Committee
360 Collins Street, Melbourne

CAUSES OF FRUIT DECAY.

A paragraph appearing in the "Nurseryman and Seedsman" (England), recently indicates something of what is being done to discover the causes of fruit decay, and to minimise the losses from this source. It reads:—

The greatest authority in London on bad fruit is a young man who sits daily in his office, a one-man Government Department, in Dudley House, Endell-street, Long Acre, W.C., surrounded by fruit in varying stages of decay.

The office is a branch of the Department for Scientific and Industrial Research, and has been open since Christmas.

This official told a reporter recently:—

My work is to discover why certain fruits decay so quickly. Mostly it is due to faulty methods of packing or delays in transport, two causes we are trying to remedy.

Sometimes the wholesale dealers

bring their fruit to me; sometimes I go myself to look round the market.

Home-grown fruit and vegetables, which quickly reach the consumer, hardly come within my sphere, so that most of my work is with imported fruit. It is hoped that the public will benefit by a fall in prices if only we can cut the loss to wholesale merchants from decayed fruit.

Inquiries in Covent Garden Market showed that surprisingly few of the dealers knew or availed themselves of the advice which this energetic young man dispenses free of charge.

APPRECIATION.

(To the Editor, "Fruit World.")

Sir,—Please find enclosed herewith cheque for £1/10/6, being subscription for four years to the "Fruit World." Wishing your paper every success.—Yours truly,

(Signed) W. B. BEAL.

Wentworth, N.S.W.

THE CURRANT MOTH.

THE recent discovery in Melbourne of the Currant Moth, or the Clear - Wing Currant Moth, as it is called in England, has added yet another pest to the already long list of pests that growers have to contend with. This serious pest, which attacks all varieties of the Currant, is a well-known European insect; and it has been known to be present in New Zealand and Tasmania for years, so that its presence on the mainland was to be expected sooner or later.

The pest was discovered by Mr. H. W. Davey, F.E.S., Chief Orchard Supervisor for Victoria, attacking Currant bushes in a Melbourne garden.

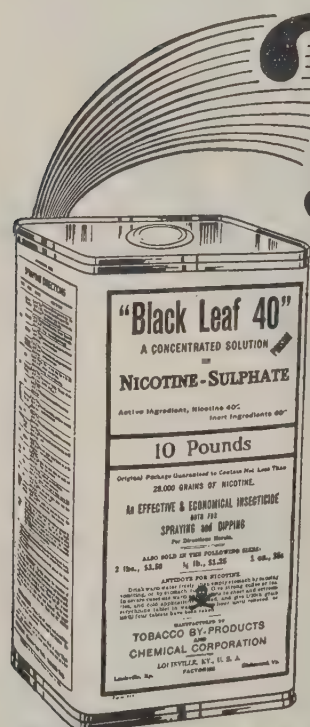
The moth is quite small, not more than half an inch long or wide, with clear wings, veined with black, with a border on the wings. The body of the moth is black, with three fine rich, yellow bands.

The moths appear in early summer, laying their eggs on the bushes. When the eggs hatch, the larvae bore their way into the stem, there to live, burrowing and boring their way through the stems, feeding on their tissue. The plants thus suffer, and present a sickly drooping appearance.

Later the chrysalis forms, to develop later into the moth, which emerges through an opening in the stem, to commence the cycle again, by its egg-laying operations. The pupa cases can be seen sticking in the opening through which the moths have emerged.

There is no spray remedy. As soon as any Currant bushes appear sickly, the stems should be examined by splitting them open, when the presence and working of the pest will be noticed. All affected stems should be cut away and at once burned. The pest is scientifically named *Aegeriidae* (*Sesia*) *tipuliformis*. It has been proclaimed under the Vegetation Diseases Act of Victoria.

Have you heard of the fruitgrower who was such an ardent co-operator that when sick he sent for the undertaker—he cut out the doctor, as he had no time for middlemen!



Why be satisfied with dwarfs and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated

Louisville, Ky., U. S. A.

Kills
Aphis

"Black Leaf 40"

40% Nicotine

- LEMONS -

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vic.

THE HAMBURG MARKET.

Prospects for the Coming Season.

Messrs. Ph. Astheimer and Sohn, Hamburg, report that total imports of Australian Apples during the 1926 season amounted to 248,458 cases, with 4,311 cases Pears. For the majority of the fruit good prices were realised; some, however, arrived in very poor condition. Small shipments of Grapes did not arrive in good condition, and owing to the heavy duty on Australian Grapes, further shipments are not recommended.

For the coming season it is anticipated that Apples will find a good market, provided the American Fruit is pretty well cleared before the Australasian starts to arrive. Shippers are strongly advised to make direct shipments, to avoid unnecessary handling.

It is estimated that imports of Pears could be increased to from 12,000 to 20,000 cases, for which good prices might be expected.

Sales are affected in the free-port of Hamburg, and prices realised are free of duty to shippers; but as buyers have to pay duty as soon as the goods leave the free-port, this naturally affects the buying price. Australasian Apples are subject to about 1/6 per case heavier duty than the American fruit, and a commercial treaty to readjust the difference would be welcomed.

COVENT GARDEN MARKET.

It is more than a year since the decision to move Covent Garden Market to Bloomsbury was announced, but the market still stands where it did, says the "Nurseryman and Seedsman" (England). At the annual meeting of the Beecham Estates Company (the proprietors of the market), it was stated that the directors fully realise the weight of the opposition to the move, and they are willing to consider any scheme for modernising and extending the present site of the market.

It seems probable, therefore, that no removal will take place, but that steps will be taken to bring the present market thoroughly into line with the most modern developments.

SOME JUICY REMARKS.

Five-year-old daughter: "Look at that funny man across the road."

Mother (looking in shop window): "What is he doing?"

"Sitting on the pavement talking to a Banana skin."

FRESH FRUIT EXPORT CONTROL.

The Legend of the Frogs.

THE quoting of the legend of Jupiter and the frogs to illustrate a point regarding fruit-growing politics, is not to suggest that there is any physical similarity between frogs and fruitgrowers, although it is rumoured that both do a bit of croaking occasionally.

However this is how a well-known Victorian grower views the matter:—

Once upon a time, when frogs (fruitgrowers) were free, and were tired of running their own business as they liked, they held a meeting, and, with a lot of talk and clamor petitioned Jupiter to give them a king to keep them in order—and make them more honest.

Jupiter, knowing them, smiled; and with a great splash threw a log—(State Fruit Advisory Board)—into their pond; which, for a while created almost terror and amazement.

They rushed under the water and into the mud, and dared not come within ten leaps' length of the spot where it lay.

At length one frog, bolder than the rest, ventured to pop his head above the water, and take a survey of their new king at a respectful distance.

Presently, when they perceived the log lie stock-still, others began to swim up to it and around it; till by degrees, growing bolder and bolder, they at last leapt upon it, and treated it with the greatest contempt (at a meeting held in Portland). Dissatisfied with so tame a ruler, they forthwith petitioned Jupiter a second time for another and more active king. Upon which he sent them a stork (Commonwealth Fresh Fruit Export Control Board), who no sooner arrived among them than he began laying hold of them and devouring them one by one as fast as he could, and it was in vain that they endeavoured to escape him.

Then they sent Mercury with a private message (petition of three hundred growers) to Jupiter, beseeching him that he would take pity on them once more; but Jupiter replied, that they were only suffering the punishment due to their folly, and that another time they would learn to let well alone and be satisfied with natural conditions.

I am always pleased to get your paper, and have recommended it to others in the same line. The information contained in the "Fruit World" about the doings of our friends in the other States is good reading.—C. H. Ragless, Eden, S.A., 29/11/26.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1885Tel.-Addr.:
"Timmkorn
Hamburg"

★
Special
Catalogues
showing
prices
issued
after
each sale

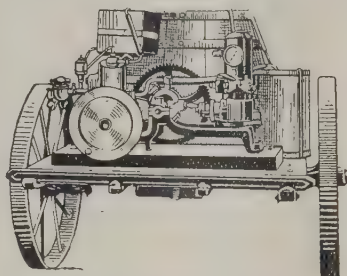


★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired
BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Effective Spraying means Better Crops and Bigger Profits



Made in Single and Double Plunges
3 and 4 horse power

You can have the same results as thousands of other growers by using

The BAVE-U PIONEER AUSTRALIAN POWER SPRAYER

The POWER SPRAYER that has held its own against all comers for the past 15 years

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles.

Declared by a number of users to be worth its weight in gold.

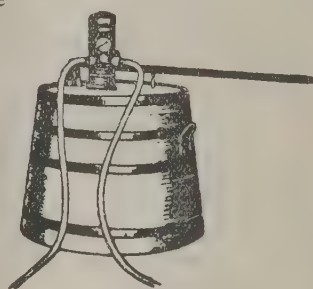
Write for Catalogue to the Makers:—

RUSSELL & CO.

ENGINEERS

Box Hill, Melbourne, Victoria

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett Street, Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney



FRUIT GROWERS!

Avoid bruising of your fruit in transit
by using the

"AIR FREE" CASE

Patent 9331/22

which surpasses any other case for use in Cool Stores, or Transport of Fruit to Local, Interstate and Overseas Markets

Orders now being received for 1927 Export Season

Full particulars from

F. Cave & Co. Pty. Ltd.

Wholesale Fruit Merchants & Exporters
Western Market, Melbourne

Cable & Telegraphic Address: "Cavecofruit," Melbourne
Telephone: F 3930

New and Up-to-date Gardening Books

that will assist you in the
pursuit of your favorite hobby
• Just Published.

Whitcombe's

Australian Gardening Handbook

An up-to-date series of Handy Books
for the Australian Amateur Gardener

Written by and under the General
Editorship of
E. E. PESCOFF, F.R.H.S., F.L.S.

GARDENING IN AUSTRALIA.
Profusely Illustrated. Price 1/8 posted.

BULB GROWING IN AUSTRALIA.
Profusely Illustrated. Price 1/8 posted.

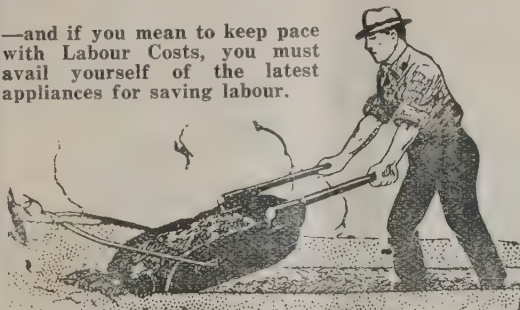
Send your order now to

HORTICULTURAL PRESS PTY. LTD.

Bank House, Bank Place, 410 Collins St., Melbourne

Modern Methods Demand Modern Tools

—and if you mean to keep pace with Labour Costs, you must avail yourself of the latest appliances for saving labour.



Solid Steel Earth Scoops

Our Earth Scoops are Pressed COLD from one Piece of Steel, and thus are especially strong at the corners, the place where the average Scoop is weakest, and are fitted with two stout wooden handles.

With a good Scoop a man can do 10 times the amount of work in a day that he would do with a shovel.

PRICES:

Capacity 3 cub. ft.	5 cub. ft.	7 cub. ft.	10 cub. ft.
65/-	67/6	70/-	£6

The Seymour Earth Auger Will Save You Pounds

The "SEYMOUR" Earth Auger is one of the greatest labour - saving devices ever put on the market.

With it you can sink a post-Hole EIGHTTIMES FASTER than with a spade, and much easier work, too! Consider the great saving of time and labour that this means! Besides another great feature, using a "SEYMOUR" means that there is very little "ramming" to be done round the Post, as it cuts a clean round hole, the same diameter all the way down.



PRICES: (inches diameter).

3in.	4in.	5in.	6in.	7in.	8in.	9in.	10in.
------	------	------	------	------	------	------	-------

9/6	9/6	9/6	9/6	10/3	11/3	12/3	13/6 each
-----	-----	-----	-----	------	------	------	-----------

WE HAVE LARGE STOCKS OF PUMPS

We have complete stocks of all types of SPRAY PUMPS, SPRAYING MATERIALS, HAND AND POWER PUMPS, RAMS, PIPING, FITTINGS, &c., and have issued a special Pump Catalogue Illustrating and describing all the types Stocked, which will be sent Post Free on Request.

McPherson's
Proprietary Limited

582-592
Collins St. Melbourne

FRUIT GROWERS!

Avoid bruising of your fruit in transit
by using the

"AIR FREE" CASE

Patent 9331/22

which surpasses any other case for use in Cool Stores, or Transport of Fruit to Local, Interstate and Overseas Markets

Orders now being received for 1927
Export Season

Full particulars from

F. Cave & Co. Pty. Ltd.

Wholesale Fruit Merchants & Exporters

Western Market, Melbourne

Cable & Telegraphic Address: "Cavecofruit," Melbourne

Telephone: F 3930

New and Up-to-date Gardening Books

that will assist you in the
pursuit of your favorite hobby

Just Published.

Whitcombe's

Australian Gardening Handbook

An up-to-date series of Handy Books
for the Australian Amateur Gardener

Written by and under the General
Editorship of
E. E. PEScott, F.R.H.S., F.L.S.

GARDENING IN AUSTRALIA.

Profusely Illustrated. Price 1/8 posted.

BULB GROWING IN AUSTRALIA.

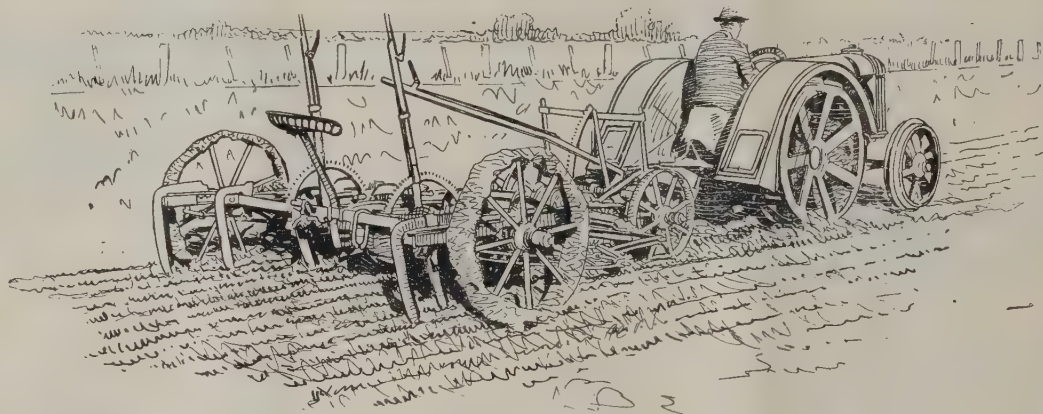
Profusely Illustrated. Price 1/8 posted.

Send your order now to

**HORTICULTURAL PRESS
PTY. LTD.**

Bank House, Bank Place, 410 Collins St., Melbourne

By effective use of the Rigid Tyne or Spring Tyne Cultivator with the Fordson a loose mulch is obtained which prevents the escape of valuable moisture.



Fordson Power insures a good crop

SOIL is the farmer's working capital. On its proper handling depend the profits of the year's work. A perfect seed bed, ploughed, harrowed and cultivated at just the proper time is the best crop insurance.

With Fordson power and modern farming implements at hand, the delays of weather and soil conditions cannot interfere with the production of a profitable crop.

Over half a million Fordsons are in use. Farmers everywhere say their help in preparing a proper seed bed increases not only the quantity but the quality of the yield.

Mr. John Davidson, Tongala, Vic., realises the importance of Fordson farming. He writes:

"Your Distributors sold me one of your Fordson Tractors about two years ago, and it has always given us perfect satisfaction. We have not got a horse on the farm now, and we are thankful every time we think of it. One of the boys was ready to start some cultivating about four o'clock the other day, and said if we had the horses still he would never have dreamt of harnessing them up at that time of day, but as it only took a minute to get the Tractor out, he was tearing into the work in less than five."

Ask nearest Ford Dealer for a demonstration of Ford Products on your own property—without obligation to you.

Fordson

THE UNIVERSAL TRACTOR

£180 Complete with Fenders
and Pulley. F.O.B. Ford
Works in this State

Ford

ONE TON TRUCK

Complete with Standard
Body, F.O.B. Ford Works **£160**
in this State.

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

Branches in all States

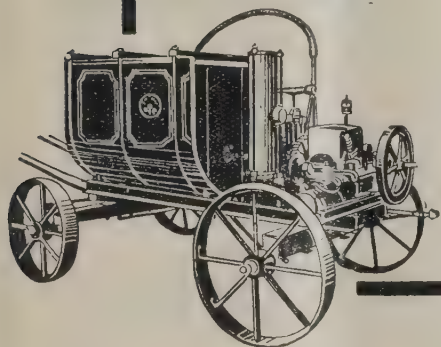
Success or Failure

There are more failures than successes in spraying. This may not be apparent in ordinary seasons as the average is accepted for the standard, but at times the loss is so great that there is a loud outcry. The blame is immediately put upon the sprays used, but the trouble is really "want of knowledge and of care in the things which matter most — TIME, METHOD, CORRECT MATERIAL."

Success is certain under the most difficult conditions if you know how and do it efficiently.

A. H. McDONALD & CO. PTY. LTD.

have set themselves to do their part. They provide the 604 Sprayer capable of doing the work. The best of Spray Materials, each manufactured for a particular purpose. Expert advice on all points of spraying with full and clear directions for the treatment of every disease and pest.



The 604 MOTOR SPRAYER

Embodies Numerous Improvements — Standardised
Parts — Outside Valves.

A. H. McDONALD & CO

570-4 Bridge Rd Richmond Vic. PTY LTD

(W. McF.)

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

SUPPORT CO-OPERATION

By Consigning your
FRUIT to the

Producers' Distributing Society Ltd.

(Late Coastal Farmers' Co-operative
Society Ltd.)

— Agents for —

"BLACK LEAF 40"

and all Orchard Requirements

Melbourne Sydney
Newcastle Hobart
Launceston Devonport

ESTABLISHED 1891

AUG. STIER

FRUIT BROKER, Fruchhof, HAMBURG

Telegraphic Address: FRUTERO, Hamburg.
Consignments Solicited

Agents for Victoria and South Australia:—

J. B. MILLS & CO., Bank House, Bank Place
MELBOURNE

Tasmanian Representatives:

C. PIESSE & CO.

7 Elizabeth Street, Hobart,

ANOTHER PEST ELIMINATED

No present day Orchardist expects to keep his fruit trees alive and in full bearing unless he can keep down, by spraying with poisonous liquids, the thousand and one insect pests, fungoid growths, and other similar evils to which his trees are always subject.

Just as your trees are attacked, so is all your steel and ironwork, which forms the largest part of tools and implements you buy.

The cancer of rust will eat all your plant unless it is
ZINC SPRAYED BY THE SCHOOP METAL SPRAY PROCESS.

No zinc sprayed article exposed to atmospheric conditions has ever rusted.

When ordering Refrigerator Coils, Tanks, Dryers, Spraying Outfits, specify all steel work to be metal sprayed.

Fruit juice containers, expressing machines, and other apparatus used in manufacture of foodstuffs can be tin sprayed.

Ask for booklets and other information from:

ALUMINO-THERMIC & METAL SPRAYERS LTD.

Union House, 247 George Street, Sydney

Tel. BW 6467.

Box 219D G.P.O.

Corkscrew Steel Fencing Posts

All previous defects associated with Iron Posts eliminated

FIREPROOF. WHITE ANT PROOF.

Owing to the corkscrew construction of these Posts, they have a tremendous grip in the ground, and it is only necessary to drive them using about a 5lb. hammer any kind of soil. We suggest using about a 5lb. hammer for the purpose. The Posts are bored to specification without extra charge. It is necessary to use the ordinary wooden strainers.

THE MAIN FEATURES ARE:

PERMANENCY.—The Posts will last a lifetime, and will also ensure the Wire lasting a similar period.

INDESTRUCTIBILITY.—The Posts are unbreakable, and their flexibility and resiliency enable the fence to maintain its true position, even after being subjected to pressure. The fact that a single post will bend when not in the fence is not a detriment, but we claim it to be one of its greatest merits, as any other iron or steel post of somewhat similar size is liable to fracture when subjected to pressure, which is impossible with the Corkscrew Post. This Post when bent can just as easily be straightened again without injury to the post.

Obtainable from—

Sole Agents for
N.S.W.—

The Commonwealth Wool & Produce Co. Ltd.

CHEAPNESS OF RAIL TRANSPORT AND HAULAGE CHARGES.

The Posts are carried at the same rate as fencing wire on the railways, viz.: 2 tons or over, "A" Rate; 1 ton, "B" Rate; under 1 ton, 1st class. For a distance of, say, 300 miles, the rates would be:—

"A"	£2 7 6	per ton
"B"	£3 7 6	"
1st Class	£6 14 2	"

At "A" Rate the cost per post would be approximately 1d. for the above distance. These posts can be despatched with wire netting and fencing wire to make up minimum quantities to save freight.

CHEAPNESS AND QUICKNESS OF ERECTION.

The saving in this item will be found to be enormous.

PRICES AND WEIGHTS:

5 feet, about 4½lbs. (500 to ton), 1/6 each. 5 feet 6 inches, about 5 lbs. (450 to ton), 1/7½ each. F.O.R., Sydney. Longer Posts can also be supplied.

Station Supplies Department (1st Floor)
3 Bent Street, SYDNEY

SALES DEPOTS.

No. 542-543 Covent Garden Market.
No. 100-101 Long Acre.
No. 1 Endell Street.

Cables—Spinach, London.
Codes—A.B.C., 5th Edition; Bentley's:

OFFICES:
97, 98, 100, 101 Long Acre.

FRUITGROWERS!

Consign your Fruit to

PASK, CORNISH & SMART

COVENT GARDEN

LONDON, W.C.2, England

THE PROGRESSIVE FIRM of FRUIT SALESMEN

Who have the necessary extensive clientele to assure sales at top market prices. Spacious Sale Rooms suitably situated to display fruit to very best advantage.

Reasonable advances made against Bills of Lading. Balances paid by cheques drawn on Australasian Banks.

Sales entirely by Private Treaty

Last year handled more than ONE MILLION Packages of English, Colonial and Foreign Fruits.

REPRESENTED AT

TASMANIA
AUSTRALIA

SOUTH AFRICA
NEW YORK
TENERIFFE

ST. MICHAELS
LAS PALMAS

and all Principal Fruit Growing Centres in England, France, Spain
Belgium and Holland.

Tasmania Representatives—

E. R. COTTIER & CO., Finance Company Chambers, 82 Collins Street, Hobart

Western Australia Representatives—

THOS. HAYWARD & SONS LIMITED, Bunbury, W.A.

REPRESENTATIVES REQUIRED in South Australia, Victoria and New Zealand.

The Ultimate cost is the one to watch!

Cooper "Perfect Balance" Sprayers are noted for remarkable economy

READ THIS EVIDENCE

Somersby, via Gosford
N.S.W.

"I have had my Cooper Spray Plant for some considerable time, and it has been in pretty constant use, not only spraying acres and acres of orchard, but washing down vehicles as well.

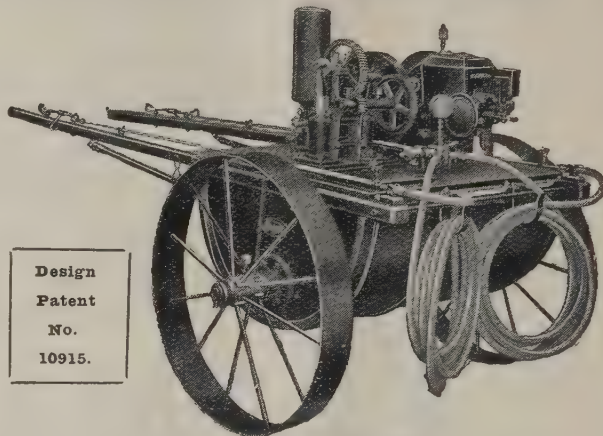
Without a doubt it is very economical—a good long day's work to the gallon of benzine being my experience with it. Any man of commonsense can keep engine and pump running well."

(Sgd.) S. G. SPENCER

11/6/26

In the long run
the Sprayer that pays best is the

Cooper



Design
Patent
No.
10915.

WRITE TO
Cooper Engineering Co. Ltd.
129-131 SUSSEX STREET, SYDNEY or
350-358 SPENCER ST., MELBOURNE
Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Ltd., HOBART

FRUIT WRAPPING PAPER

Stocks of highest-grade Californian Fruit Tissue available this month.
wrapping export fruit.

The quality of this paper is unsurpassed for

Stocks of all sizes available throughout the year.

We solicit your enquiries

CHAS. R. GABB & CO., 88-94 Franklin St., Melbourne

and 16 Chester Street, Adelaide

Phones: F 2121 and F 2122



Fruchthof-Bremen

Fruchthandel Gesellschaft Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen

Established 1902

AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

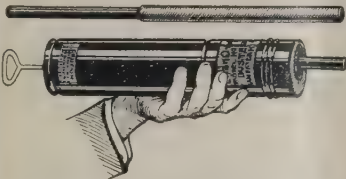
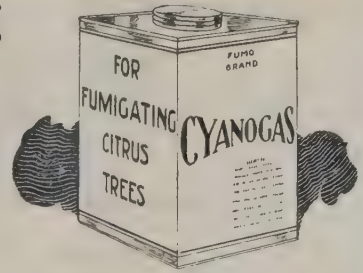
Tasmania: Messrs. E. R. Cottier & Co., Hobart.

Are You Cyanogassing Your Citrus Trees ?

Never since orchardists first began to concentrate on the control of insect pests has there been such enthusiasm and agreement about a single method as has attended fumigation with Cyanogas. There is scarcely a Citrus growing area in Australia in which the conclusive proof afforded by practical tests has failed to induce many others to adopt this remarkably efficient agent for the destruction of scale, lice, wax, bug and every other sucking parasite. Hundreds of growers are busy fumigating to-day.

The Government Citriculturist experts are unanimous in their advocacy of Cyanogas fumigation; individual orchardists who have tried it once now swear by it—and export buyers, knowing the difference it makes, are virtually compelling its adoption by refusing to handle scale marked fruit, washed or unwashed. It is only when you fumigate that you can be sure of good, clean, bright skinned fruit.

Don't hesitate another day. Investigate its merits. Ignore the unsupportable, though plausible, yarns of those interested in the old, inefficient methods. Get proof—facts! Write to any of the following, and descriptive and authoritative information will come to you per return Mail. Ask for Booklet P11.



The handy little Duster which has so simplified and cheapened fumigation

STATE DISTRIBUTORS :

New South Wales ..	Buzacott & Co. Ltd., Sydney.
Victoria	A. Victor Leggo & Co., Melbourne.
Sth. Australia .. .	St. Aust. Farmers' Co-op. Union Ltd., Adelaide.
Queensland	Buzacott's (Q'ld.) Ltd., Brisbane.
West Australia .. .	Harris, Scarfe & Sandovers Ltd., Perth.
Tasmania	Davidson & French, Launceston.
	Roberts & Co. Ltd., Hobart.

THE . . . "Garden Lover"

The Brightest
Horticultural Monthly

ANNUAL SUBSCRIPTION.

Commonwealth	6/-	Posted
British Poss.	8/-	"
Foreign	8/6	"

ORDER YOUR COPIES NOW

THE "GARDEN LOVER"

Bank House, Bank Place, Melbourne

GRUBBING



WITH A
"DIGGER" WINCH

A Man can uproot more Trees and Stumps in
a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

Thousands
in Use

It earns its
Famous
LOW PRICE
in a Few Days

Write for
Catalogue

Latham Dehydrators

"STAND ALONE"

The "Rolls Royce" of the Artificial Drying
World.

Particulars, Prices, and list of present
users on application

D. J. LATHAM

157 Queen Street,

Melbourne, Australia



"Bay View" Fruit Picking Bag

CAN BE USED FOR ANY CLASS OF FRUIT

Allows use of Both Hands in Picking

No Bruising of Fruit

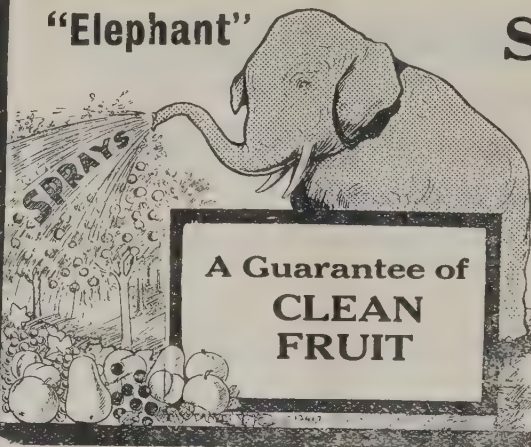
Weight Carried on Shoulders instead of
Back of Neck

Mr. J. LANG, President of the Australian Conference of
Fruitgrowers, writes:—"After two season's use I am well
pleased with the Bags: fruit receives minimum of handling,
and is less liable to damage. They are also a great time saver."

PRICE, 12/6 EACH

Postage in Victoria, One bag, 1/3. Two bags, 2/-.
Postage, Interstate, One bag, 2/2. Two bags, 3/8

F. R. MELLOR, 440 Elizabeth St., MELB.

"Elephant"**STILL ON TOP!!**

Orchardists : Apples will be scarce and worth money this season therefore it is to your advantage to spray whatever apples you have. You will also reduce the number of codlins for next season.

Therefore see that you get

"Elephant" Brand

ARSENATE OF LEAD (PASTE & POWDER)

To obtain the best results it is necessary to spray thoroughly and frequently with Arsenate of Lead. This takes up considerable time, and is costly. It is therefore all the more necessary to use the Best Brand obtainable. To be sure of this, see that you use "ELEPHANT" BRAND, which has been proved to be not only the most reliable on the Australian market for many years, but the Highest Grade of Arsenate of Lead still obtainable.

Since the Wonderfully fine "ELEPHANT" BRAND ARSENATE OF LEAD came on the market years ago, numerous tests carried out by the various Government Agricultural Departments invariably show that this Brand stands alone. No other brand has shown consistently the very high qualities of "ELEPHANT" Brand. The figures published below speak for themselves,

And are THE ONLY RESULTS PUBLISHED IN THE SOUTH AUSTRALIAN JOURNAL FOR AGRICULTURE DURING THE PAST FOUR YEARS.

In 1921 "ELEPHANT" BRAND ARSENATE OF LEAD had the wonderful suspension of 89.35% (Jan. Journal), whilst in 1922 the Percentage was 52.4% (Mar., 1923, Journal), and in 1923 the percentage was 82.2%. (This was the last published in Dec. Journal). In each case "ELEPHANT" came out easily on top. Therefore we have not yet been beaten for suspension, and it should also be noted that the percentage of killing property in our Arsenate of Lead is particularly high.

Citrus Growers: Now is the time to order Red Oil. We can assure you E.B. stands alone. Try it

Write for a copy of Government tests on Arsenate of Lead.

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone : J 2008.

INTERSTATE AGENTS:

Agents : Seedsmen, &c.

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFORD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR MARCH, 1927

Illustrations.	
Apricot Picking in Tasmania	104
The Need for Proper Sizing of Apples	107
The World's Largest Peach Cannery	110
Subjects.	
Apple Grading Regulations	129
Australian Fruit in England	106-107
Apricot Growing in Tasmania	104
Beekeeping Notes	125
Canned Fruits; The World's Largest Cannery; Relief for Peach Growers	110-111
Citrus; Murray Citrus Growers' Report; Colouring Citrus; Co-op. Citrus Selling	118-119
Developing the British Outports	111
Dried Fruits; Release from Repayments Granted; Control of Pests; Area and Production in Victoria	114-115
Export Apples: Need for Careful Grading	117
Fighting Insect Pests	133
Gypsum in the Orchard	xvii
Industrial Mission to U.S.A. Irrigation Areas	xvii
Letters to the Editor	134
Marketing Immature Table Grapes	117
Markets: British and Australasian	128-129
News in Brief	104
New Zealand: Fresh Fruit Export; Regulations and Levy	112-113
Parliamentary Candidates	115
Poultry Notes	123
Queensland: Current News; Fruit Marketing Act	120-123
Research into Irrigation Problems	136
Review of American Apple Crop	113
Subscribers' Payments Received	119
South Australia: Proposed New Markets; the Hindmarsh Valley	116-117
Tasmania: Export Regulations; Orchard Work; News	131-132
Transport of Tomatoes	136
To Improve Australian Fruitgrowing	103
Victoria: Association's Meetings; Fruit Crop Report Visit to U.S.A. and England—Mr. R. E. Boardman's	108-109
Western Australia: The Season and Crops: Orchard Work for March	102
Woolly Aphid Parasite	xviii

INDEX TO ADVERTISERS.

Books, Publications—	
"Garden Lover," Bank House, Bank Place, Melbourne, pp. 99, xxi.	
Whitecombe's Australian Gardening Handbooks, Hort. Press Pty. Ltd., Bank House, Melbourne, p. xi.	
"Fungus Diseases of Fruit Trees," Fruit World Pty. Ltd., Bank House, Melbourne, cover ii.	
Budding Knives.	
O. Nobelius, Kia Ora Nurseries, Narre Warren, Vic., p. 111.	
L. P. Rosen & Son, Epping, N.S.W., p. 120.	
Canning Machines—	
Heine, John and Son Ltd., Sydney, N.S.W., p. xx.	
Tombs & Howcroft Pty. Ltd., 369 Post Office Place, Melbourne, p. xxii.	
Cases—	
"Air Free" Case, F. Cave & Co. Pty. Ltd., Western Market, Melbourne, p. xi.	
Hardwood Shooks, A. Palmer & Co., Bairnsdale, Victoria, p. 132.	
Cold Storage—	
Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii.	
Dehydration—	
Latham, D. J., Sun Buildings, Queen St., Melbourne, p. 99.	
"Simplex," Clyde Engineering Co. Ltd., Granville, N.S.W., p. 136.	
Dusting Machines—	
Atomol Dusts Ltd., Dumphries Place, Adelaide, p. iv.	
"Niagara" Duster Gun, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.	
Fruit Buyers—	
Brooke, C. M., & Sons, Whiteman St., South Melbourne, p. xviii.	
Rosella Co., Ltd., Richmond, V., p. 118.	
Fruit Tree Suppliers—	
Brunning, John, and Sons, Somerville, p. 102.	
Picnic Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii.	
Two Raws Nurseries, Moorooduc, Vic., p. xiii.	
Fruit Graders—	
"Lightning," Lightning Fruit Grader Co., 5 Hoddle St., Collingwood (Vic.) p. 133.	
Fumigation—	
"Cyanogas," Buzacott & Co. Ltd., Sydney, p. 99.	
"Vitamite," Lincoln & Blunt, 191 Liverpool St., Sydney, p. x.	
Manures, Fertilisers, &c.—	
Sulphate of Ammonia, Australian Sulphate of Ammonia Propaganda Committee, 360 Collins St., Melbourne, p. xvi.	
Gypsum, A. H. Hasell, 17 Queen St., Melbourne, p. xviii.	
Motor Cars and Trucks—	
Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii.	
Orchard Requisites.	
McPherson's Pty. Ltd., 582 Collins St., Melbourne (Vic.), p. xi.	
Patent Attorney—	
Sev. A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne p. 110.	
Picking Bag.	
"Bay View," F. R. Mellor, 440 Elizabeth St., Melbourne, p. 99.	
Poultry—	
Karswood Poultry Spice, Agents all States, p. 125.	
Refrigerating Machinery—	
Werner, R., & Co. Pty. Ltd., Richmond, Vic., cover iii.	

Roller Conveyors—

Schumacher Mill Furnishing Works Pty. Ltd., Port Melbourne, p. xxiv.

Spray Material—

"Blue Bell," Arsenate of Lead, 31 Queen St., Melbourne, Vic., p. iii.

"Black Leaf 40," Tobacco By-Products and Chemical Corp. Inc., Louisville, Ky., U.S.A., p. xviii.

"Carlton" Arsenate of Lead, F. R. Mellor, 440 Elizabeth St., Melb., p. 99.

"Cloudform" Dusts, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.

"Elephant" Brand, Jaques Pty. Ltd., Madden Grove, Burnley, Vic., p. 100.

"Gargoyle" Spraying Oil, Vacuum Oil Co. Pty. Ltd., cover i.

"Swift's" Arsenate of Lead, H. W. Peabody & Co., Sydney and Melbourne, p. viii.

Dusting Powders, Atomol Dusts Ltd., Dumphries Place, Adelaide, p. iv.

"Qua-Sul," Lincoln and Blunt, 191 Liverpool St., Sydney, p. x.

"Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.

"Black Leaf 40," Producers' Distributing Soc. Ltd., Melbourne, p. xiv.

Berger's Arsenate of Lead, Neptune Oil Co. Ltd., River St., Richmond Vic., p. xxii.

"Yarra" Fruit Sprays, Parsons & Jaques, 6 Patterson St., Abbotsford, Vic., p. 132.

Spray Pumps and Guns—

"Amazon" 6-Ply Spray Hose, F. R. Mellor, 440 Elizabeth St., Melb., p. 99.

Alumino-Thermic and Metal Sprayers Ltd., 247 George St., Sydney, N.S.W., p. xiv.

"Bave-U" Power Sprayer, Russell & Co., Box Hill, p. xvii.

"Bave-U" Power Sprayers, N.S.W. agent, E. Robinson, 333 George St., Sydney, p. 117.

"Cooper," Cooper Engineering Co. Ltd., 129 Sussex St., Sydney and 360 Spencer St., Melbourne, p. 98.

"Rosebery" Spray Pump, A. H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xiii.

Vermorel "Eclair" Sprayer, Cooper Pegler & Co. Ltd., 24d. Christopher St., London, E.C.2, p. 122.

Strapping Fruit Cases—

Gerrard Wire Tying Machines Co. Pty. Ltd., 119-125 Hawke St., West Melbourne, p. xv.

"Griplock," Wire Strapping, Jas. Henty & Co., 499 Lit. Collins St., Melbourne p. ix.

Steel Fencing Posts—

Commonwealth Wool and Produce Co. Ltd., Sydney, p. xiv.

Stencilling Inks—

Caldwell's Pty. Ltd., Yarra Bank Rd., South Melbourne, p. 112.

Tree and Stamp Pullers—

Trehwella Bros., Trentham, Victoria. Stumping Jacks, etc., p. ix.

"Digger," Quick Manufacturing Co., 75 Pender St., Thurnbury, p. 99.

Transport—

London and N. E. Railway, Burns, Philp & Co., agents, p. 135.

Wrapping Paper—

Californian Fruit Tissue, Chas. R. Gabb & Co., 33 Franklin St., Melb., p. 98.

FRUIT TREES

The successful Orchardist is the man
who has things ready at the right time

**The Right Time to Order is Now
for 1927**

There are Huge Stocks to choose from

**Apples, Pears, Peaches, Plums, Apricots, Quinces,
Figs, Cherries, Oranges, Lemons, Mulberries, etc.**

FRUIT TREES EXPORTED TO ANY PART OF THE WORLD

Catalogs, etc.

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES
Somerville, Victoria, Australia

Phone : Somerville 11

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and
Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS." postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place
off 410 Collins Street, Melbourne.

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart. **Western Australia:** D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane. **New Zealand:** Gordon & Gotch Ltd., Wellington, Dunedin and Auckland. **Great Britain:** Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

VISIT TO U.S.A. AND ENGLAND.

Mr. R. E. Boardman's Tour.

The Editor of this journal, Mr. R. E. Boardman, A.F.I.A., F.A.I.S., is leaving Sydney for Honolulu, U.S.A., and England, by the s.s. "Sierra," on March 19.

Mr. Boardman is attending, as an appointive delegate, the Pan Pacific Educational Conference at Honolulu, from April 11 to 16, after which he will inspect the horticultural and allied industries in California, Oregon, Washington (U.S.A.), and British Columbia, thence to New York via Chicago, Detroit, Toronto, Buffalo, Niagara Falls, Montreal, and Nova Scotia. Philadelphia and Washington, D.C., will be visited. Note will be taken throughout of the systems and equipment for agricultural, horticultural and general education. Journeying to England, Mr. Boardman will look into the marketing of Australian produce, at the main centres of entry and distribution.

Covent Garden Market.—It was announced by cable from London during February, that the Directors of the Beecham Estates had abandoned their project to remove the Covent Garden Market.

To Improve Australian Fruitgrowing

Increase the Production per Tree and per Acre.

Practical Demonstration Work Needed Right on the Orchards.

A Fascinating Story Describing How America Successfully Tackled the Problem of Increasing Farm Yields.—A Lesson for Young Australia.

MOST well-informed people have read "The Life and Letters of Walter H. Page." Those who have not yet read this fascinating series—there are three volumes—have a treat in store.

Page was the American ambassador in London from 1913 to 1918, and by his great tact and wisdom, guided the policy by which America finally threw in her lot with the

Allies to crush militarism and leave the world safe for democracy. He died soon after the Armistice, worn out by his devoted labors, and a tablet to his memory was recently unveiled by Sir Edward Grey in Westminster Abbey, to this "true friend of Britain in her sorest need."

Walter H. Page was in his mature years when made Ambassador, and had a life-long experience behind him

of service to his fellows. He was always a democrat, a man for the people, notwithstanding his own high university attainments. It was as a journalist that Page rendered signal service to his country and to the world at large. He stood for free education for all, and for the unfettered opportunity to every person to express his or her own personality. From a lifetime of service we will here extract one item only, for it is fraught with tremendous importance to Australian orchardists.

Page found many illiterate people in his own State, South Carolina. How could they be educated and the children given at least the rudiments of education?

We now quote from No. 1 of "The Life and Letters of Walter H. Page."

The South was poor; whatever might be the general desire, the taxable resources were not sufficient to support such a comprehensive system of popular instruction as existed in the North and West. Any permanent improvement must therefore be based upon the strengthening of the South's economic position. Essentially, the task was to build up Southern agriculture, which for generations has been wasteful, unintelligent and consequently unproductive. Such a far-reaching programme might well appal the most energetic reformer, but Dr. Buttrick, Secretary of the General Education Board, set to work. He saw little light until his attention was drawn to a quaint and philosophic gentleman, who was then obscurely working in the cotton lands of Louisiana, making warfare on the boll weevil in a way of his own. At that time Dr. Seaman A. Knapp had made no national reputation; yet he had evolved a plan for redeeming country life and making farms more fruitful that has since worked marvellous results.

There was nothing especially sensational about its details. Dr. Knapp had made the discovery in relation to farms that the utilitarians had long since made with reference to other human activities: that the only way to improve agriculture was not to talk about it, but to go and do it.

During the preceding fifty years agricultural colleges had sprung up all over the United States—Dr. Knapp had been president of one himself; practically every Southern State had one or more; agricultural lecturers covered thousands of miles annually telling their yawning audiences how to farm; these efforts scattered broadcast much valuable information about the subject, but the difficulty lay in inducing the farmers to apply it.

Dr. Knapp had a new method. He selected a particular farmer, and persuaded him to work his fields for a period according to methods which he

prescribed. He told his pupil how to plough, what seed to plant, how to space his rows, what fertilizers to use, and the like. If a selected acreage yielded a profitable crop which the farmer could sell at an increased price, Dr. Knapp had sufficient faith in human nature to believe that that particular farmer would continue to operate his farm on the new method, and that his neighbours, having this practical example of growing prosperity, would imitate him.

Such was the famous "Demonstration Work" of Dr. Seaman A. Knapp; this activity is now a regular branch of the Department of Agriculture, employing thousands of agents and spending not far from £3,600,000 a year. Its application to the South has made practically a new and rich country, and it has long since been extended to other regions.

When Dr. Buttrick first met Knapp, however, there were few indications of this splendid future. He brought Dr. Knapp North, and exhibited him to Page. This was precisely the kind of man who appealed to Page's sympathies. His mind was always keenly on the scent for the new man—the original thinker who had some practical plan for uplifting humankind and making life more worthwhile. And Dr. Knapp's mission was one that had filled most of his thoughts for many years; its real purpose was the enrichment of country life.

Page therefore took to Dr. Knapp with a mighty zest. He supported him on all occasions; he pleaded his cause with great eloquence before the General Education Board, whose purse strings were liberally unloosed in behalf of the Knapp work; in his writings, in speeches, in letters, in all forms of public advocacy, he insisted that Dr. Knapp had found the solution of the agricultural problem.

Applying the foregoing to Australian conditions, we find many orchardists are in a similar position. Their work is "wasteful, unintelligent, and consequently unproductive." Some people "keep an orchard instead of the orchard keeping them." It's the old story of the scrub bull.

There are "scrub" varieties and unsuitable soils; some Peach orchards are growing four tons per acre, whilst others, worked on scientific lines yield ten tons per acre.

The Agricultural Department is doing useful work, and the Better Farming Train comes as a blessing

to the districts visited. But the work can be greatly extended. There are a score of ways in which improvements are possible. Better knowledge is needed in regard to pollination, varieties, soils, spraying, pruning, irrigation, and intelligent businesslike co-operation. If a larger agricultural vote be needed it should be granted. The basis of our prosperity is on our agricultural production, and the export of our produce.

Long vision is needed, patience and high purpose in developing the fertile lands of this sparsely settled Commonwealth.

Before closing, reference should be made to Page's "discovery" of the scientist who wanted to fight the hookworm, but lacked the opportunity. By bringing Dr. Stiles forward and publicly placing the seal of appreciation of his work, the Rockefeller Institute gave large sums of money for the development of the cause, with this result, that Australia (particularly Queensland), and other parts of the world in the "hookworm belt," have cause for ever to bless the name of this devoted and far-seeing man.

News in Brief

The Banana crop in Queensland has benefited by the recent heavy rains.

The marketing of immature fruits is condemned by our Queensland correspondent, who also comments on Banana marketing in Brisbane.

A good crop of Custard Apples is reported in the Redlands Bay district, near Brisbane, Queensland.

The use of *Melilotus indica*—largely adopted in California—is recommended by a correspondent for green manuring in Citrus and other orchards in Australia.

Mr. P. H. Thomas, State Fruit Expert, Tasmania, warns growers against exporting Apples carrying arsenic in excess of the quantities allowed as harmless by the British authorities.

Large quantities of Tasmanian fruit have been shipped to Sydney this season, thus reducing the amount sent to overseas markets. Good prices were obtained at first, but apparently a slight glut has since taken place.

Since the administration of Commonwealth export regulations was taken over by the Department of Markets and Migration on January 1, the amended regulations so long recommended have been gazetted. These secure uniformity in respect to branding and grade requirements for both overseas and interstate markets.

The Minister for Markets and Migration (Mr. Paterson) visited Tasmania early in February and addressed meetings of growers on the subject of export control. It is understood that a Bill will be brought before the Federal Parliament early



Apricot Picking, 1927: "Prior Letham," Bridgewater, Tasmania

in March, says our Tasmanian correspondent, but the principle will not become operative unless supported by the vote of a majority of exporters.

A small consignment of Oranges, exported by the Murray Citrus Growers' Co-operative Association Ltd., last season reached London in satisfactory condition, and realised a gross average of 24/3 per case.

State Citrus Associations are urged by the recent interstate conference to work for the establishment of a Federal Citrus Exchange, on the lines of the California Fruitgrowers' Exchange.

Dr. F. G. Myers, an officer of the Imperial Bureau of Entomology, London, has arrived in Melbourne to undertake investigation in regard to the "dried fruits' grub." Dr. Myers is co-operating with the Council for Scientific and Industrial Research. Mr. Gerald Hill (entomologist), and Mr. A. V. Lyon, of the Merbein Viticultural Research Station, are also studying the problem from different aspects.

APRICOT GROWING IN TASMANIA.

Mr. Eric Shoobridge, Prior Letham, Bridgewater, Tasmania, writes:—I am sending a photo. which may be of interest, showing Apricot picking here, in 1927.

The Agricultural Department is carrying out extensive experiments on my property in relation to Apricot growing, and I would be pleased to contribute article on result obtained when completed. There is an abnormal shortage of Apricots in Tasmania this year, as the result of severe frost during "setting" period.

Apple prospects look well, but the greater proportion of growers are refraining from booking space for overseas markets, preferring to risk interstate. Many leading Sydney agents are stating through the press, that Tasmanian growers may find the interstate markets unable to cope with practically the greater proportion of Tasmanian fruit.

Wishing the "Fruit World" all the support it can and should obtain from every fruitgrower.

The Irrigation Areas

Area and Production

MERBEIN IRRIGATION AREA.

Interesting Figures.

Mr. G. I. Picton, Supervisor of the Merbein Irrigation Area, has compiled figures regarding the acreage and yield of the Merbein settlement that make interesting reading, says the "Sunraysia Daily." The figures, which may be regarded as being reasonably accurate, despite the fact that an isolated grower or two refused to disclose any particulars regarding the production of his holding, do not include that portion recently watered from the channels of the First Mildura Irrigation Trust, but now supplied from the channels of the Commission, in the section known as "the Ridge" toward Lake Hawthorn.

In the Merbein Irrigation area proper, including the Birdwoodton and West Merbein soldier settlements, 6,942 acres are in full bearing, and 470 acres additional are planted up, but not yet in full bearing, making a total area of 7,412 acres under irrigation. Of the 413 holdings, 172 are those of returned soldiers, five or six being soldier settlers under the provisions of Section 20 of the Discharged Soldier Settlement Act. On the 413 holdings, counting the settler, his wife and children only, 1,523 persons reside, and the number of permanent employees engaged on the holdings, exclusive of the proprietor, total 109.

Vine Fruits.

Dealing with vine fruits it is shown that 3,803 acres are planted up with Sultanas and in full bearing, while 303 acres are planted but not yet in full bearing. From this acreage 3,863 tons of dried fruit, six tons of fresh fruit, and 75 cases of Sultanas forwarded as fresh fruit were obtained.

In Currants, 1,208 acres were in full bearing, and 83 acres so planted were not yet bearing. 1,391 tons of dried fruit and 2,304 tons of fresh fruit had been produced. Thirteen acres of Gordos were not yet in full bearing and 478 acres had produced the crop of 455 tons of dried fruit, 711 tons and 1,550 cases of fresh fruit. There were four acres of Waltham Cross planted, but not in full bearing, and 159 acres in full bearing. Thirty tons of Walthams had been dried and 115 tons and 12,925 cases disposed of as fresh fruit.

Sixty-seven acres of Ohanez Grapes

were in full bearing and two planted acres had yet to reach full maturity. Two tons of fresh Ohanez and 3,935 cases had been marketed. In Doradillos 523 acres in full bearing and 12 acres not yet in full maturity were listed, the produce being 79 tons of dried fruit, 2,971 tons of fresh fruit, plus 4,237 cases of Doradillos. Other vines included 12 acres bearing and three acres not yet bearing, and from these 15 acres 237 cases of fresh fruit had been marketed.

Citrus.

In Citrus fruits 558 acres full bearing and 42 acres not yet in full bearing were planted up with Oranges, the produce of the acreage being 44,883 acres. Forty-one acres were planted up to Lemons, 39 acres being in full bearing and producing 13 tons and 3,702 cases. The area devoted to Prunes was 16 acres, from which four tons and 58 cases of dried fruit and a quarter of a ton and 62 cases of fresh fruit were marketed. Seventy-one acres were planted up with other trees, 12 acres not being in full bearing. The produce from this acreage was two tons and 928 acres of dried fruits and a quarter of a ton and 265 cases of fresh fruit. Under the heading of miscellaneous planting 24 acres were listed, four not being in full bearing, 60 cases being given by the blockers as the return from this area.

To summarise the return, it is shown that there are 6,942 acres planted and in full bearing and 470 acres planted but not in full bearing—a total of 7,412 acres. The produce from this area amounted to 6,326 tons and 986 cases of dried fruits and 4,048 tons and 73,031 cases of fresh fruit.

CURLWAA IRRIGATION AREA.

During the three months ended December 31 last, weather conditions on this area were mild. The rainfall in October was 41 points, November and December, nil.

The first irrigation was commenced in the previous quarter and finished on October 8, when approximately 1,749 acres were watered. The second watering commenced on November 4 and finished on November 20, approximately 1,530 acres being watered, and the third irrigation commenced on December 1 and terminated on the 19th, approximately 1,586 acres being watered.

The crops generally were very satisfactory. The Apricot crop was good. Peach and Nectarine crops will probably be lighter than usual, but it is anticipated they will maintain the usual satisfactory standard. Due no doubt to the exceptionally heavy crops the previous season, the Citrus crop was not so heavy during the period under review. It is expected that the area will have a heavy vine crop this season.

In a few instances scale has attacked orchards, but the local Settlers' Co-operative Packing Company, is taking necessary action to cope with the pest, the Water Conservation and Irrigation Commission assisting settlers where fumigation is considered necessary.

Following upon the Round Table Conference with the settlers some months ago, a Committee has made enquiry into the cases of some of the civilian settlers who made application to have their holdings reclassified, and the decision given by the Commission in accordance with the Committee's recommendations have generally been accepted by the Settlers as entirely satisfactory.

SPRAYS THAT PAY.

A useful booklet describing the various methods of combating orchard pests has been issued by Messrs. A. Victor Leggo and Co., under the title, "Sprays That Pay."

The "Vallo" sprays, prepared by this firm are well known, and include arsenate of lead (in paste and powder form), red spraying oil, "Vallo"-Giraffe lime sulphur, nicotine sulphate (40 per cent. nicotine), benzole emulsion, copper soda, and all other needed sprays. A special preparation is the home-made dry Bordeaux, for the treatment of bitter rot, curl leaf on Peach trees, shot hole and scab on Apricots, also black spot in Apples and Pears, and downy mildew on vines. The booklet and price list will be forwarded free on application to Messrs. Leggo and Co., Melbourne, Sydney, and Brisbane.

44-HOURS WEEK GRANTED.

The Full Court of the Federal Arbitration Court, on February 23, granted an application of the Amalgamated Engineering Union, for a reduction of working hours from 48 to 44 per week. It is stated that this judgment is highly important, as it will to some extent determine the standard hours to be worked in normal industries in Australia.

Manufacturers and employers generally are alarmed at the decision, and predict a rise in prices.

Australian Fruit In England

Improvements in Export Conditions From Australia are Desirable.

Better Grading, Packing and Labelling.

"Export Control Boards are Crippling to Trade."

Views of Mr. H. H. Smith, M.L.C.

WITH the sincere object of improving the conditions relating to the export of Australian fruit, Mr. Herbert H. Smith, M.L.C., of Melbourne, recently visited Great Britain and Europe, and on his return placed before the Legislative Council an exhaustive statement detailing his investigations.

The publication of an abridged summary of Mr. Smith's remarks led to criticism in certain quarters, but a perusal of the whole of the statement, shows that Mr. Smith has displayed great energy and ability in depicting the position, and furthermore, he has the courage to fearlessly state his convictions, even though some facts were deemed unpalatable.

The spirit in which Mr. Smith conducted his investigations on presenting his report will be noted from his remarks in the Legislative Council, thus:

"I gave a great deal of time to marketing our produce abroad because I love my country, and believe I can advance Australian interests, not only saving £100,000 a year, but within five years we will increase export by £20,000,000. This is a big thing to say, but I can prove it. My sole idea is to help this country by fostering the spirit of co-operation."

After quoting figures showing the expansion of the export trade from—New Zealand, South Africa and Canada, Mr. Smith stated that if Australia would send her fruit—fresh, canned and dried—to the overseas markets in better condition, it would command a higher price than the fruit from any other country in the world.

With regard to Apples, Mr. Smith states from first hand knowledge and from the definite opinions of the buyers in Great Britain, that the following improvements are necessary:—

- (a) Better grading and packing. The sizing now is most irregular, as will be seen from the photo. on the next page.
- (b) Too many marks on cases. A neat label, as on New Zealand, U.S.A. and Canadian cases would improve the appearance greatly.
- (c) Our hardwood cases are unsuitable, as they become warped and stained, and have an unrepresentable appearance,

(d) All fruit for export should be neatly wrapped.

(e) Cases should be wire strapped. Australian Apples were losing shillings per case on the market because of the non-attention of the above points.

Mr. Smith quotes numerous authorities in support of the statements which are accompanied by a mass of carefully compiled details.

With canned fruit it was a grave error to sell the pack to one individual house, namely the Home and Colonial Stores; by dealing through this one channel, and neglecting the normal avenues of trade, Australia was playing into the hands of its biggest competitor—California.

Control Boards Undesirable.

With regard to marketing conditions generally, Mr. Smith insists that the Export Control Board system is wrong in principle, and very injurious to Australia in practise. The overlapping was appalling. There was no cohesion of any kind among the interests concerned, and these Control Boards, instead of assisting trade were simply clogging business enterprise.

Despite the fact that several States have their Agents General and Trade Commissioners, there was no effective contact between these established organisations and the Control Boards. If Australia desired information that would guide producers here in the better marketing of their produce, the facilities were already in existence before the Control Boards were formed for supplying such information, in fact, a great deal of valuable information was continuously being sent forward from the Offices of the Agents General and Trade Commissioners, but all too frequently, these valuable reports were pigeon-holed and never reached the producers or their organisations.

In a recent interview, the Hon. Mr. Smith states that he most heartily concurs with the published remarks of Major H. S. Cole, representative in Australia of the London and North-Eastern Railway Company, with a capital of £365,000,000, the largest dock owning company in the world—and supports his evidence that the Control Board system is starving the outports. Mr. Smith states that on the Continent of Europe practically nothing

is known of Australian fruits, and he is convinced that there is a big market there awaiting development.

There is urgent necessity, states Mr. Smith, for producers in Australia to organise in their own districts, and to form such effective groups that they can keep an oversight on the export and marketing of their produce, but that this should be done voluntarily and without Government action, so that Australian producers could be kept fully advised from their own organisations as to the present conditions surrounding the export trade, and its possible expansion.

Following the Hon. Mr. Smith's address in the Legislative Council, scores of appreciative letters have been received.

Export from Tasmania.

Here is a typical letter received by Mr. Smith from the Minister for Agriculture, Hobart (the Hon. J. Belton).

"In accordance with your request, I return herewith the photo. which you sent me relating to the fruit shipped to London by Mr. T. C. Smith, of Hythe. This has proved a great benefit in dealing with the question in Tasmania, and I have already gone into the question of tightening up our inspection with the object of preventing further consignments of this nature leaving our shores.

"I have also conferred with the Minister for Markets and Migration (Mr. Paterson), and as a result I am hopeful that the Commonwealth Government will effect a considerable improvement with reference to their part of the inspectorial work, and the results of our combined efforts in this direction, should materially benefit the fruit industry of our State.

"I desire to thank you very much for the help and information you have given me in this matter, which I assure you I much appreciate."

From a capable and independent authority in England, the following was written on January 4.

"Your address in Parliament was of the greatest possible interest. You have done first-class work for the fruit people. The great difficulty is the continual fighting between the Federal and State authorities. No good to business ever comes from continual fighting. The position seems to have been that the Dried Fruit and Butter Primary Producers went to Mr. Bruce and asked him to start Control Boards in London. He replied that if a majority of the primary producers in these industries desired it, he would do so. They then, I think, had a referendum and the majority were in favor of starting

these Boards. The trouble was that no one on this side was consulted, neither the High Commissioner nor the Agents-General. Members of these Boards were appointed apparently haphazard at very high salaries, and few of them knew anything about London conditions. Had those here been consulted I feel sure a great saving in expense and an increase in

efficiency might have been brought about."

With the big vision of improving export from Australia, the Hon. Mr. Smith is continuing his labors with the full conviction that the reforms he advocates will certainly be brought about, and the sooner this is done the better will it be for the producers and general public of Australia.

The Road to Success.

"Develop your district Associations and make a strong State organisation before dealing with a contentious matter like 'Export Control,'" was the advice tendered by Mr. W. J. Williamson, L.L.B., of Portland, at the last meeting of the Victorian Apple and Pear Growers' Association.



The above shows Apples taken from the case seen in the picture. Whilst not typical of the bulk of fruit exported, the need for proper sizing by growers is emphasised.

Much experimentation is yet needed before we understand properly and fully the relationships existing among water, soils, and crops.

One fact stands out in bold relief in the history of men's attempts for betterment. That is that when compulsion is used, only resentment is aroused, and the end is not gained.

Only through moral suasion and appeal to men's reason can a movement succeed.—Samuel Gompers.

VICTORIA.

Mt. Waverley Orchards.

During February a visit of inspection was paid to the thriving orchard

district of Mt. Waverley, near Melbourne, where, despite the ravages of thrip, there is a splendid crop of Apples and Pears. Growers attribute their success to their system of planting rows of interpollinating varieties. Further details and pictures next issue.

Victoria

Association Meetings :: Horticultural Research :: Crop Report

FRUITGROWERS' COOL STORES ASSOCIATION OF VICTORIA.

THE Thirty-seventh Quarterly Meeting of the Fruitgrowers' Cool Stores Association of Victoria, was held at Melbourne, on February 15.

There were present:—Messrs. A. R. Fankhauser (Burwood East), F. Thomas (Bunyip), H. L. Tomkins, R. Langley and W. Lipscombe (Croydon), J. Tully (Doncaster West), J. H. Lang (Harcourt), J. M. Watt (Hastings), J. W. Bailey (Narre Warren), W. J. Williamson (Portland), J. G. Aird (Ringwood), T. W. White (Somerville), L. Cole and J. Willoughby (Tyabb), J. W. Bailey and W. Lipscombe (Private Stores), and the Secretary.

Visit of Dr. Kidd.—The Secretary reported that Dr. Kidd, of the Cambridge Low Temperature Research Station was expected in Victoria about the end of March.

It was decided to endeavor to arrange for an address by Dr. Kidd to delegates, and that engineers be also invited to be present.

Deferred Payments.—It was resolved that the thanks of the Association be forwarded to the State Treasurer, Savings Bank Commissioners, Mr. A. E. Chandler, M.L.C., and other Parliamentary Members, for assistance and support in obtaining deferred payments on loans to cool stores.

Mr. R. E. Boardman's Tour.—It was decided to forward a letter to Mr. R. E. Boardman, giving him authority to act on behalf of the Association on matters relating to cool storage of fruit during his visit abroad.

Farmers' Convention.—Delegates to the Farmers' Convention at Warrnambool, on March 29, 30 and 31, were elected as follows:—Messrs. J. H. Lang, W. J. Williamson, and H. V. C. Wilson.

It was decided to request legislation to establish a Rural Bank, whereby orchardists could get reasonable advances upon the security of their orchards.

Drawback on Softwood Cases.—It was decided to support the Apple and Pear Growers' Association in any effort made re drawback on softwood case timber.

Competition Fruit.—The motion passed on April 13, 1923, was decided

to be suspended for this season, viz:—"That the fruit for competition for the Cool Stores Association Shield at the Royal Agricultural Show, must be drawn from and stored in the local cool store at least three months."

Root Borer.—A resolution was carried requesting the Department of Agriculture to advise what has been done re root borer pest.

Superintendent of Horticulture.—It was decided to invite the Superintendent of Horticulture to attend, or send a representative to all meetings.

An interesting chat was given by the President on the commencement of the movement for establishing cool stores in fruitgrowing districts, briefly describing the progress made to the present time.

HORTICULTURAL RESEARCH.

The thrip pest and Blackberry destruction are being studied at Mt. Dandenong, Victoria.

Under the auspices of the Mt. Dandenong Research Committee, some valuable work is being conducted by the Department of Agriculture in regard to the thrips—a pest which has for several seasons past wrought great havoc amongst the berry fruit farms. The spread of the Blackberries has caused great concern to fruitgrowers and local residents. Tests are being made in regard to the best method of destroying the Blackberry plant. Reports will shortly be furnished regarding the efforts of the Research Committee, the President of which is Mr. H. O. Allan, the Secretary being Mr. J. Valantine.

VICTORIAN FRUIT CROP REPORT TO END OF JANUARY, 1927.

Deciduous Fruit.

CODLIN MOTH is proving very troublesome, and is very difficult to control this season, owing to the very light crop, and consequent heavy foliage.

Most Apple growers have given an increased number of arsenical sprayings, but despite this, the percentage of infected fruits in light crops is abnormally large.

Reports from the principal districts indicate crops as follows:—

Apples.—Very light to medium, some varieties good in places,

Apricots.—Heavy yields; quality and prices generally good.

Peaches.—Light to fair; later varieties in Goulburn Valley, good.

Pears.—Light to medium; some good crops W.B.C. in Northern districts.

Nectarines.—Light to medium.

Prunes.—Medium to fair; Kyabram and Echuca, heavy.

Plums.—Light to medium.

Quinces.—Fair to good.

Almonds.—Heavy.

Walnuts.—Fair.

Viticulture.

Throughout the State the vineyards look remarkably well, with the exception of a few local accidents such as frosts, hail, etc., which cannot materially affect the State total.

The year commenced with warm weather—a heat wave was experienced during the week ending January 15, culminating on Friday, 14th, when 111½ was registered at the Rutherglen Viticultural Station. Sunscald has been reported from a few localities as well as some yellowing of basal leaves. Vegetation is generally luxuriant and the fruit well protected.

The rainfall for 1926 was well above the average. At the Rutherglen Viticultural Station, 25.96 inches were registered, the average being 22 inches. As scarcely any of this fell prior to March 20 last, the present crop has had the full benefit.

Given a continuance of present weather, the vintage will be an early one. Sultanias and Currants have been in evidence in Melbourne shops for a couple of weeks. The excellence of these small Grapes for table use seems to be meeting with tardy recognition.

Citrus.

There has been a severe dropping of fruit, chiefly in Navel varieties; the crop for 1927 can, therefore, be predicted as about equal to 1926.

During the recent heat wave, prices for Lemons were very high. There is a shortage in the Lemon crop, and summer Lemons are almost sure to command high prices.

Valencia Late Oranges are bringing good prices, and the increase in demand for pure fruit juice drinks has been of great benefit in ridding the market of rough and badly-colored fruit.—Horticultural Division, Vic. Department of Agriculture.

(To the Editor, "Fruit World.")

May I take this opportunity of congratulating you on the February issue of the "Fruit World." There is a fine range of subjects most capably dealt with.—Walter J. Foster, Brighton, Vic., 10/2/27.

APPLE AND PEAR GROWERS' ASSOCIATION OF VICTORIA.

THE monthly meeting of the Apple and Pear Growers' Association of Victoria, was held on February 15, at 325 Collins-street, Melbourne.

There were present:—Messrs. Lang (Chairman), Williamson, Nobelius, Carne, Thomas, Bailey, Colles, Willoughby, L. G. Cole, J. G. Aird, White-side, Ahearn, Coventry, and the Secretary, R. E. Boardman. An apology was received from Mr. Murray Jones.

Relief for Growers.—On behalf of the Sub-Committee, the Chairman reported that a deputation had waited upon the Victorian Government Thrip Relief Committee, and had secured a valuable modification of the terms on which relief money was granted by the Government.

The first repayment of principal was now to be made on December 1, 1928, thus giving practically two years for this first repayment; subsequent instalments to be paid at yearly intervals, thus giving growers four years instead of three for repayment of the whole advance.

It was decided to thank the Treasurer for this action on the part of the Government.

Codlin-moth Spraying.—In answer to the Association's request, the Superintendent of Horticulture wrote, enclosing a copy of the regulations showing that inspectors had the power to prosecute growers who neglected to spray with arsenate of lead or other suitable insecticide to check the codlin moth.

Mr. C. P. Nobelius, Warragul, said that the one-tree orchardist was a source of danger. There were also negligent growers who should be prosecuted if they failed to spray. He urged the fixing of stated times, suitable to the various districts, before which spraying must be completed. He suggested the middle of November for spraying in Gippsland, so that any orchardist who had not sprayed before then would be liable to summary prosecution. It was decided on the motion of Messrs. Nobelius and Bailey, to refer this matter to the Annual Conference.

Cars for Inspectors.—It was further decided on the motion of Messrs. Nobelius and Bailey, to request the Department to supply a car for each of their Inspectors.

Duty on Imported Case Timber.—The Chairman reported that a conference of fruitgrowers' organisations was being held in Melbourne on February 23, to decide on the matter of presenting the attitude of the fruitgrowers in their opposition to the pro-

posed increase of Duty on imported case timber in shooks.

Mr. Willoughby gave notice of motion that this meeting communicate with the Customs Authorities requesting that a simpler method should be adopted for obtaining the drawback on softwood cases. He submitted that the four Departmental forms were cumbersome, and information was requested which it was difficult for fruitgrowers to obtain.

Annual Conference.—A letter was received from the Victorian Railways, suggesting The Chalet, Mt. Buffalo National Park, for the Annual Conference. It was decided on the motion of Messrs. Carne and Cole, to write to the Railway Department, requesting a quotation for the attendance of 60-70 delegates.

Port of Hull.—Major H. S. Cole, representing the London and North-Eastern Railway, was introduced by the Chairman, and gave an interesting address urging the claims of Hull as a port of destination for Australian fruit, and stated that the proposed Fresh Fruit Export Control Board had caused some anxiety to the Hull Port Authority, as a reduction in the trade with Hull had followed the appointment of Control Boards of dried fruits, butter and canned fruit industries. Major Cole was informed that the Control Board, if formed, would seek to develop, rather than reduce, the trade with the outports, and he was thanked for his address. (Further reference to Major Cole's address and the discussions, will be found elsewhere in this issue.)

Future of the Association.—The Chairman outlined the activities of the Association in endeavoring to improve the conditions of interstate marketing, relief to sufferers through the thrip pest, and other matters.

With regard to the proposed Export Control Board, the action so far taken had only been to give the growers an opportunity of voting on the subject. He frankly admitted there were possibilities of evil under the Control scheme, but there were possibilities for good, and he thought the latter outweighed the former.

He suggested that as the Apple and

Pear Growers' Association and the Metropolitan Association were dealing in somewhat similar matters, they could combine and make one strong Association.

Mr. Williamson urged the sinking of the discussions on the Export Control scheme. It had already created too much dissension. The outstanding need was for the building up of a strong growers' organisation. (Hear, hear.)

Mr. Ahearn gave notice of motion for the annual meeting to provide for each branch to have one member on the Executive; and that if a new branch be formed, it should have a right to nominate a member for the Executive. It was decided to ask the Association to send in their nominations for the Executive, also, items for the agenda at least a month before the Convention.

The Secretary presented the financial statement showing need for more funds to be received to enable the Association to carry on.

In answer to Mr. Whiteside, the Chairman stated that as far as possible the Executive would endeavor to send a speaker to any Association where desired, to attend a district meeting.

Brisbane Fruit Marketing.—The letter from the Committee of Direction of Fruit Marketing, Brisbane, requesting to be appointed receivers for Victorian fruit in Brisbane, in place of Mr. D. G. Wills, was referred to at the annual meeting on the motion of Messrs. Williamson and Bailey.

Mr. Williamson stated that he was against dispensing with the services of the man who had done good work.

Prohibition of Imported Apples.—Mr. Carne stated that efforts were being made to relax the prohibition on Apples from America, Canada and New Zealand. It was decided on the motion of Messrs. Carne and Coventry, to write to the Customs Department, requesting that there be no relaxation of the present prohibition, and that there was an ample supply of Australian Apples in the Commonwealth for the coming season.

Secretaryship.—Owing to his going abroad, the Secretary, Mr. R. E. Boardman, regretfully tendered his resignation, which was accepted, and Mr. W. H. Carne, Pakenham Upper, was appointed Acting Honorary Secretary.

A NEW COMPANY.

We are advised that the business carried on by V. Ellingworth, at Chancery House, 440 Little Collins Street, Melbourne, has now been registered under the Companies Act as V. Ellingworth Pty. Ltd.



Canned Fruits

THE WORLD'S LARGEST PEACH CANNERY.

A Wonderful Example of Technical Skill.

California looms so largely in the fruit-canning world, and has such a dominating influence on the British market for that class of produce, that it may be helpful to those portions of the British Empire that can fruits for export to give a description of the world's largest Peach cannery, which is situated at Emeryville, California, and belongs to the Virden Packing Corporation, states "The Imperial Food Journal." This cannery handles from 8,000 to 8,500 tons of Peaches every season, and has the capacity for canning 8,000 cases a day.

On a Commission Basis.

Unlike many canning concerns, the Virden Packing Corporation does not buy the fruit from the grower, but is operated more on a commission basis; that is, the growers are charged a small amount per case above the cost of canning. When the fruit is canned it is sent to a bonded warehouse and the farmer is advanced enough money for his working expenses. When the fruit is sold the farmer is paid the balance after packing expenses, etc., are deducted.

The fruit is shipped to the cannery in well-ventilated cars, and the average freight is about 4.00 dollars per ton. Most of the fruit travels during the night, and on arrival at the cannery in the morning is put into cool storage chambers if it is not required immediately.

Preparing.

For preparing the fruit there are 17 tables, and an average of 225 women at work in this department. These women halve and pit the fruit, but do very little sorting, except to sort out the pie fruit. As they cut the fruit they place the halves in small bins having a movable bottom. As the bins are filled the forewoman

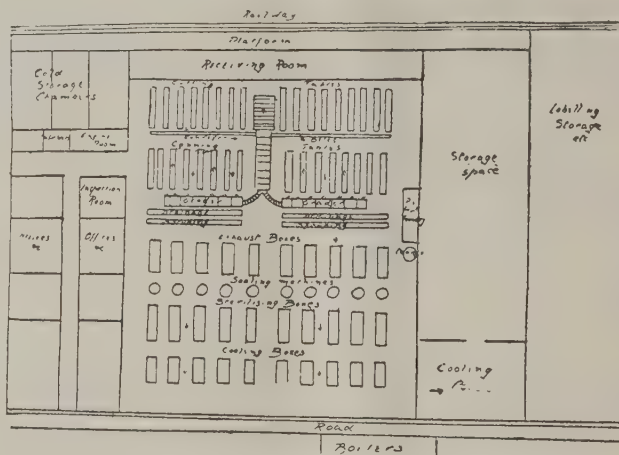
pulls out the bottoms and allows the fruit to fall on travelling belts below. The waste is removed by means of a screw-type conveyor.

Lye Peeling.

After the fruit is cut it is conveyed, or elevated, by means of moving belts, to the lye-peeling room. In this room there are two Kyle lye-peeling machines, made by the Anderson-Barngrover Company. These machines are capable of handling 250

is conveyed to the graders, which sort the fruit into seven grades; two fancy, four choice, and one standard. Each screen varies by one-eighth of an inch, the largest fruits being separated out first. The fancy grades are moved first in order to prevent bruising as much as possible.

After passing through the graders the fruit moves to the filling tables, 16 in number; these tables are fitted with an automatic can-stamping machine, and by this means a count is kept of the number of cans filled by each canner. There are 100 women employed in canning, and they are paid at the rate of 25 cents per 100 cans of choice, and 21 cents in the case of standard fruit. Before the



Plan of the World's Largest Peach Cannery

tons of fruit a day, and use from 7 lb. to 9 lb. of lye per ton of fruit. The fruit remains in the solution about 45 seconds before it passes into two more drums containing the wash water, where it remains another 45 seconds. In order to keep the lye solution up to strength a No. 10 can full of concentrated lye is added every hour. The fruit is also watched to see if peeling is properly done.

After passing through the wash water the fruit is carried along a table by moving belts to the graders. While passing over this table it is sorted out by women who remove blemished and poor fruits. From five to twelve women, depending on the quantity of the fruit, are engaged here in sorting and are paid 35 cents an hour. No blanching is done with the ripe fruit, as it tends to make it ragged. The green fruit is blanched for about two minutes in water ranging from 185 deg. to 212 deg. F.

Grading and Filling.

After passing the sorters, the fruit

cans are syruped, each one is weighed by the filler and filled so as to weigh over a specific amount. One can out of every 12 is examined by the forewoman in charge of the filling room. Grades average 80 per cent. choice and fancy grades, 15 per cent. standard, and 5 per cent. water grade.

The syrup is first made up to concentration of 55 degrees Balling in two large tanks. From these tanks the syrup is passed on to other tanks, six in number, where it is diluted down to concentrations of 40 degrees, 20 degrees, and 10 degrees Balling respectively. Syrup is added to the cans at a temperature of 212 deg. F.

Exhaust and Sealing.

After the cans have been syruped they are passed through the exhausting boxes. There are two types at this cannery, one of the Anderson rotary type, and nine of the Hawkins disc type. The fruit is exhausted from five to six minutes at a temperature ranging from 200 deg. to 205 deg. F.

PATENTS
GEORGE A. UREN

PATENT ATTORNEY

"HEPTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

Sealing is done by 10 Troyer-Fox non-spill double seam machines, each capable of sealing 93 cans a minute. All waste syrup is collected underneath the machines in a tank, and from there it is pumped to the floor above and refined by boiling with norit and filtered in a Hillier syrup refining outfit.

Processing the Peaches.

Processing is done by ten cookers made by the Anderson-Barngrover Company. The fruit is processed for about 22 minutes at an average temperature of 212 deg. F. After processing, the cans are cooled in cold water by means of a rotating drum arrangement. The cans are then taken to the cooling shed, which has a capacity of 8,000 cases, and there they are allowed to cool before being stored in the warehouse. Before storing,

however, every can is tested for defectives.

ASSISTANCE FOR PEACH GROWERS.

Following a deputation from Shepparton growers, the Minister for Agriculture (Col. Bouchier), announced on February 24, that Peach growers who have suffered loss through the ravages of Rutherglen bug would be eligible for assistance on the same terms as the fruitgrowers whose crops were damaged by thrips.

Orchardists on the M.I.A. have lodged an appeal against the orchard employees' Award, mainly against the additional 8/6 per week "climatic allowance," which is not payable outside the areas.

more, it is the cheapest port in Great Britain. The dock facilities are second to none, and leave little to be desired. The latest dock to be constructed, is the King George Dock, possessing the most up-to-date facilities for rapidly handling all products imported from Australia and elsewhere; it is the dock in which most of your direct ships are berthed.

The dock possesses almost unlimited covered accommodation and storage facilities, including a grain silo; the covered accommodation on the quays make it possible for goods to be sorted to mark, immediately they rise from the ship's hold, and as the quays are all served by direct rail facilities, immediate despatch can be given to all goods for inland towns, which is of vital importance when dealing with perishable commodities, such as fresh fruit.

An additional factor which makes for increased efficiency, is that, as the whole dock system of Hull is owned by the London and North-Eastern Railway, there is a complete unification of control from the time the ship enters any one of the docks, until the goods are delivered to the ultimate consignee; these conditions can only be achieved when a dock is railway-owned property.

Finally, the port of Hull possesses an excellent Continental service, as steamers leave nearly every day for Holland, Belgium, France, Germany, Denmark and Scandinavia.

Now, Gentlemen, to revert to the proposed Control of your Fresh Fruit. Australia already possesses Control Boards, which govern the marketing of dried fruits, canned fruits, and dairy produce, and I may say, without fear of contradiction, that the trading community serving the vast N.E. industrial area, have hitherto failed to receive a share of these Australian exports.

The marketing of these products has in the main, been largely confined to London, which obviously is not to the best interest, either of the producer or receiver, particularly the former, as a producer requires as wide a distribution as possible, for his commodity.

Hull possesses a very excellent Fruit Market, which is attended by both Continental and Home buyers,

Continued on Page 127

Developing the British Outports

The Importance of Hull as a Market for Australian Fruit.

Dangers of Proposed Export Control Board.

"Killing the F.O.B. Trade."

Address by Major H. S. Cole, of the London and N.E. Railway.

THAT the discussions in Australia regarding the proposed Fresh Fruit Export Control Board have caused anxiety in Great Britain, is evidenced by the fact that the London and North-East Railway, a company of £365,000,000 capital—the largest dock owning company in the world, detailed Major H. S. Cole to come to Australia to direct the attention of Australian shippers to the advantages to be derived in sending shipments of wool, wheat, butter, meat, fruit, etc., to Hull, and to the danger of concentrating supplies in London. Already the action of the other Control Boards has had this undesirable effect, so the address by Major Cole, before the Apple and Pear Growers' Association (by the invitation of the Chairman, Mr. J. H. Lang), will be perused with interest.

After being introduced by the Chairman, Major Cole said:—
Mr. Chairman and Gentlemen,—

I have come to Australia on behalf of the London and North-Eastern Railway, to do all I can to increase the direct trade between the Dominions of Australia and New Zealand with the Home Country, by encouraging a greater use of the outports serving the large industrial population on the north-east coast of Great Britain.

The scope of my work will therefore cover the marketing of your primary products, and in this connection I may say that some uneasiness

has been caused at Home, due to the fact that a strong movement would appear to be on foot for the formation of an Export Control Board, covering the importation into Great Britain of Apples and Pears.

In accepting your courteous invitation to address your meeting, I do not wish to create an impression that I am endeavoring to teach you your business, apart from such an attempt being a presumption on my part, the inevitable result would be that I should do harm instead of good.

My obvious duty, however, is to endeavor to represent our side of the situation to you, so that our mutual interests will be safeguarded, and necessary provision made for future development.

The population served by the port of Hull, is approximately 12,000,000 persons, or twice the population of Australia; this factor alone will show you how important it is that nothing should interfere with the development of your trade to this port.

At the present time, adequate direct shipping facilities exist between Australia and Hull, and it is of paramount importance to Australian trade generally, that nothing should cause a reduction in these facilities, which are keeping the lines of communication open. What should take place, is that these facilities should be more fully utilised.

The port of Hull ranks third amongst the U.K. ports, and further-

KUNDE & SOHN
Genuine
BUDDING KNIVES
FOR SALE
Price, 4/6, each, post free

OSCAR NOBELIUS
Kia Ora Nurseries, Narre Warren, Vic

New Zealand.

Fresh Fruit Export : : Regulations and Levy
Export of Passion Fruit

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.
Drop us a Line or Cable
"Peachbloom," Dunedin.

NEW ZEALAND EXPORT REGULATIONS.

Reduction of Varieties Urged.

THE regulations for the export of Apples from New Zealand during the coming season include two new grades, "extra fancy" and "fancy," which will involve some arrangement of colour requirement. In the new export conditions, the principal requirements will be as follows:

Extra Fancy.—Solid red, 65 per cent.; partial red, 40 per cent.; striped, 25 per cent. Maximum defects, 5 per cent. blemish, 5 per cent. unnatural russet.

Fancy.—Solid red, 30 per cent.; partial red, 15 per cent.; striped, 10 per cent. Maximum defects: Apples not to be affected with more than 5 per cent. blemish, or 10 per cent. unnatural russet.

The regulations proceed to comment as follows:—"The standing of the New Zealand Apple trade in England has been detrimentally affected by the large number of varieties shipped each season, many of which represent a few cases only, whilst others are not at all suitable for the market. All those that have been shipped in small quantities, unless specially favoured, will not be again accepted, and therefore do not appear on this season's export list. These include Allington Pippin, Baldwin, Blenheim Orange, Cambridge Pippin, Commerce, Crofton, Duke of Clarence, Golden Russet, Horn, John Sharp, Sharp's Late Red, and Wagner.

"Apart from these, the list still includes a number of more or less suitable varieties such as Alfriston, Boston Russet, Brownlee's Russet, Golden Pippin, Hoover, London Pippin, Parlin's Beauty, Stark, Salome, Shepherd's Perfection, Edward Lippiatt, Pioneer, Premier, Ribston Pippin, Scarlet Pearmain.

"Orchardists who are growing these varieties are strongly advised to work them over with more suitable kinds as early as possible, and in this connection you are requested to note that year by year this list will be referred to, and notice given that a certain number of varieties will not be approved for export after a stated period."

More Control Over Sizes.
Maximum and minimum sizes are

noted in respect to each Apple on the list, and it is evident that 216 is the smallest to be permitted, except in the case of varieties such as Cox's Orange, King David, Jonathan, Scarlet, Nonpareil, and Yates.

Extra fancy grade only will be approved for export to South America.

Another point in the conditions is that twenty cases of any one variety, either of Apples or Pears will be the minimum accepted.

NEW ZEALAND EXPORT LEVY REDUCED.

It has been announced by the Fruit Export Control Board that the levy for the coming season will be one penny per case, as against two pence per case on all fruit exported during the 1926 season. Levies imposed by the Board in 1925 totalled £352, and in 1926 £5,919. The income and expenditure account of the Control Board up to May 31, 1926, showed that there was an excess of income over expenditure of £3,842. It has been suggested that the Board should make a pro rata refund of the unexpended amount, or reduce its levies for the 1927 season to a merely nominal fraction in view of its substantial credit balance. This request has been resisted by the Board, and we think the decision a wise one. The reduction of the levy to half last season's figure is an adequate concession, and growers should not complain at paying so small a price for the services they receive.

The existence of the Federation and the arrangement by which it acts as the agents of the Control Board have enabled costs of administration to be kept down very substantially. To have had to establish a separate staff and office to carry out the work entailed by a seasonable business such as fruit export, would obviously have added very largely to the expenses of the Control Board, and therefore to the burden on the individual grower. Most producers' organisations in New Zealand have been hampered in their activities by the lack of funds. No better example is needed than the Fruitgrowers' Federation itself during the struggling years before the Orchard Tax came into force, and gave that stable basis of finance which alone made future developments possible.

In marketing the Dominion fruit crop overseas it is obvious that the Control Board will have to face some substantial expenditure, and it is imperative that they have funds at their disposal to carry out the work promptly and efficiently. Growers who have listened to the admirable addresses

SHIP TO

AUCKLAND, N.Z.

Consign to the Up-to-date
and Established Firm of

TURNERS & GROWERS — LTD. —

City Markets, Auckland
New Zealand.

Salesrooms comprise—

55,000 ft. of FLOOR SPACE,
including

FRUIT COOL STORAGE ON
PREMISES.

Staff of nearly 100 Employees
Competent Salesmen only
employed.

HIGHEST PRICES

PROMPT RETURNS.

CABLE ADDRESS: "Cantab"
P.O. Box 439.

BANKERS: Bank of New
South Wales, AUCKLAND.

delivered by Colonel Gray in his tour of the Dominion will realise something of the vast and intricate business which confronts the Board, and the necessity for having a responsible officer in England to investigate markets and direct operations when the fruit arrives.—“N.Z. Fruitgrower.”

TRIAL SHIPMENT OF NEW ZEALAND PASSION FRUIT TO LONDON.

According to “Ice and Cold Storage,” considerable interest has been aroused by the success attending a trial shipment of Passion Fruit made from Auckland to London last April. The fruit, of the ordinary commercial variety was packed in boxes of 20 lb. each. The consignment arrived in London in June, and proved to have carried well. Some of the fruit is reported to have figured on the menu of the New Zealand dinner given to Sir James Allen on his relinquishment of the High Commissionership. Passion fruit grows and produces very well in the open in several parts of New Zealand, especially in the Auckland Province. According to the above journal, prospects for the development of this trade are bright, provided reasonable prices can be relied upon.

EXPORT OF FRUIT.

New Zealand's Methods.

A Victorian Appreciation.

APPRECIATION of the arrangements made in New Zealand for export of Apples, is expressed by Mr. W. H. Murray, of the Vacuum Oil Co. Ltd., who is at present touring the Dominion. Mr. Murray writes:—

“I have been through a number of the packing houses where preparations were being made for their opening shipment, and must pass a word of approval to the excellent arrangements that are being made. The Canadian softwood casing, with the cleats on the end, is the standard package. Further, they have a nicely lithographed label, which covers the whole end of the package. During the next week or two I will be forwarding to Australia samples of Cox's Orange Pippin which I took from the reject bins. From these fruits you will see what a high standard has been set by the authorities in New Zealand for their export fruit.

“I am impressed with the importance of those interested in the industry collaborating with the Australasian fruit exportation. Notwith-

standing that New Zealand is some 1,200 miles from Australia, the general impression throughout the trade in Britain and the Continent is that the Dominion is in the same proximity as Tasmania to the mainland.

“It has been suggested that the Control Board arrange with Colonel Gray to give him at least three salesmen of a high type, and after zoning Britain, allocate to these men their territories, the duties being to place before all re-sellers, municipal bodies, and the public of Britain generally the necessity for the consumption of New Zealand, and incidentally Australian, fruits as well as those of the Homeland, inasmuch as the slogan, ‘Trade Within the Empire’ is receiving such attention there.”

REVIEW OF AMERICAN APPLE CROP.

AMERICAN APPLES being the greatest competitor Australian Apples have to meet in England, the latest news regarding the American crop will be of interest to exporters, writes Mr. H. G. Colombie, Temple-court, Melbourne.

Early in the season, it was reported that the American crop was likely to be one of the largest ever experienced, but later developments are altering the closing prospects.

Severe frosts and windstorms reduced the crops and affected the keeping qualities of the fruit. This meant that a far greater proportion was exported in the early part of the season.

It is evident from the above, that the keeping quality and condition of American Apples are not as good as usual, and this factor, together with the reduction in the boxed varieties which usually compete with early arrivals of Australian Apples, may result in our fruit having to meet less competition than was expected.

The quantities exported from America are interesting, if only to show the enormous increase recorded this year in a very short period of the early shipments. According to latest statistics to hand, exports were:—

August to October 16, 1926, about 5,600,000 bushels.

August to October 16, 1925, about 3,500,000 bushels.

As this year's shipments from Australia are likely to be on a very reduced scale, present indications lead one to expect that exporters should do well in the coming season.

Don't carry around a lot of opinions with which to start an argument. Facts are better.

A NEW HAND POWER SPRAYER.

Vermorel “Cascade” 22 Gallon Sprayer.

Messrs. Cooper, Pegler and Co. Ltd., 24D Christopher-street, London, E.C.2, announce that they have just completed a new model high-pressure hand-power sprayer, which has attracted favorable attention at demonstrations.

This machine is made of special brass alloy for use with lime sulphur, and has a container holding 22 gallons of liquid. It is fitted with two wheels, push and carrying handles.

A large compression cylinder is fitted which ensures an even spray being maintained, and the average pressure at which this machine works is 220 lb. per square inch. An important feature is the agitator which ensures the proper stirring of the mixtures.

It is supplied complete with one 10 ft. length of india rubber tubing and special adjustable spray lance, the nozzle of which can be adjusted, without stopping spraying, to throw a very fine mist spray from 2 ft. to 30 ft. from the nozzle.

A second outlet is provided so that the sprayer can be used to supply two lances at the same time, and any length of tubing can be supplied in place of the 10 ft. length. It is possible for one man to work this machine and control the spray at the same time, maintaining 150 lb. pressure with ease.

The price of this machine complete is £15/10/-. Extra variable spray lance, with 10 ft. of india rubber tubing and union, 35/- complete.

The same firm has also produced the Vermorel 3 h.p. motor spray outfit, which consists of 3 h.p. petrol engine with transmission to double throw pump by means of belt drive; two large compression cylinders which ensure constant and even pressure; a wooden tank holding 66 gallons fitted with mechanical agitator ensuring proper stirring of liquid. Additional agitation is caused by the excess liquid flowing back through safety valve to tank; four outlets, four lengths of india rubber tubing, and four variable spray lances (two 18 inches long, two 10 ft. long).

The pump works at a pressure of 175 lb. per square inch, and is fitted with an automatic safety valve. A greater pressure can be obtained if desired.

The price of this machine complete, is £77/10/-.

It can be supplied with an 88 instead of 66 gallon tank, price £83 complete.



Dried Fruit Department

DRIED FRUITS GROWERS.

Release from Repayments Granted.

The Minister for Markets at Mildura.

DURING his visit to Mildura in January, the Federal Minister for Markets and Migration (Mr. T. Paterson), inspected the dried fruits areas, and gave some important figures regarding the industry, the importance of which might be gauged from the fact that about 6,000 growers were engaged in it, and that about 40,000 people were dependent upon it. More than 45,000 acres were producing drying varieties of Grapes. The capital invested in the industry was about £4,000,000, and the annual expenditure in Australia in production and distribution amounted to £2,000,000. The value of the export trade was about £1,500,000. At the end of the war Australia was producing 14,000 tons annually, but since then three times that amount was being produced, largely owing to the fact that 2,000 to 3,000 returned soldiers had been placed in this industry by the State Governments of Victoria, New South Wales, and South Australia.

Work of Export Control Board.

Mr. Paterson said the Export Control Board had more than justified its existence, having effected a total saving in freights and insurance of £40,000, which represented an average of nearly £7 a grower.

Repayment of Advances.

The Board appointed by the Federal Government to consider application of fruitgrowers whose circumstances warranted release, either wholly or in part, from their financial liability to the Government, had investigated 2,049 applications, and recommended that 1,379 of them should be granted, that 361 be not granted, and that 309 be deferred for further consideration when the proceeds of the 1927 crop had been finally determined. Of the total applications, involving £186,677, release from liability totalling £108,480 had been recommended. The Commonwealth Government had decided to accept this re-

commendation and to wipe off the sum of £108,480 and interest. The growers to be released from their liabilities were made up as follows:—Victoria and New South Wales: Number, 844; amount involved, £86,656. South Australia, 513 (£21,422). Western Australia, 22 (£402).

Trade With Dominions.

Though the greater part of the Australian dried fruits crop went to Great Britain, last year a market for 2,000 tons had been found in New Zealand. At present there was no duty on dried fruits entering New Zealand, but endeavors were being made to obtain preference for Australian dried fruits.

Under the Trade Agreement with Australia, Canada gives a preference of £14 per ton to dried fruits shipped to the Dominion direct from the Commonwealth. Since the Treaty came into force in October, 1925, the following quantities of dried fruits have been sent from Australia to Canada:—Currants, 410 tons; Sultanas, 261 tons; Lexias, 94 tons.

Bounty to be Continued.

The bounty on exported wine had been of great benefit to the Currant and Lexia growers, and the Ministry intended to continue the payment of a bounty.

The imposition of a duty on foreign Dates was also being considered.

THE CONTROL OF DRIED FRUIT PESTS.

(By A. V. Lyon, M.Ag.Sc., Viticultural Research Station, Merbein.)

SO MUCH has been written and said recently, in regard to control of dried fruit pests, that a brief review of the present position may prove of interest. The previous steps suggested for control of the pest may be mentioned as under:—

1. **Prevention of infection**, by destroying all harbors of the pest in the producing centres.
2. **Special packing**, in order that interchange of the pest from one box to another, and from one parcel to another cannot take place.

3. **Sterilisation of fruit** when it is found to be infested.

4. **Use of a special solution** to kill the pest, and render the fruit immune from further attack.

5. **Use of a deterrent**, the smell of which keeps the moth from the fruit.

Of these various methods, immunity has not, so far, been attained, though several private claims for success are still untested. The difficulty arises in that we are dealing with a food-stuff, and the usual method of treating chewing pests (poisoning) cannot be used. Deterrents are equally unsuccessful, and a smell strong enough to ward off the pests affects the fruit adversely from the point of view of the consumer.

Sterilisation

has proved wholly successful by two methods, dry heat, and the introduction of carbon bi-sulphide in vacuo. It is at present considered that the cost of either of these methods is too high for practical use, though partial sterilisation, with hydrocyanic acid gas, is being used commercially with some success.

Special packing

is still in the experimental stage, and will be adopted commercially for small lots in the coming season. This method of attack appears most promising, and results of inspection of the new type of fruit box on the overseas market are being awaited with interest.

Prevention.

At present, for practical purposes, we must pin our faith to the first of these five methods. We can be perfectly sure that killing of the pests in old fruit, and burning of useless fruit which is in most cases infested, will minimise the trouble to a large extent. We are becoming increasingly proficient in this work each year, though we have not yet reached the desired stage when the cleaning up of all sources of infection, both by grower and packer, shall be effectually performed by the end of January.

It is not too late in the present season to do good work in these

directions, though the drying season is now at hand, and further delay must lead to infestation of new season's fruit. It is particularly desirable to treat sweat boxes, in order that the senseless procedure of tipping new clean fruit on to affected debris in the boxes shall no longer be followed.

The campaign for a clean-up has been carried into all the principal districts, and its success will be measured by the thoroughness with which growers and packers carry out this very necessary work.

DRIED FRUIT A CONCENTRATED FOOD.

Fruit, when dried, is a concentrated food, a pound of dried fruit being the equivalent of several pounds—in most cases from five to seven pounds—of the fresh article.

Dried fruits are becoming more and more popular as an article of diet as each season's crop comes on the market, their value being enhanced by the fact that they are available when the fresh fruits they are produced from are out of season. They thus offer opportunities for change in the daily menu when the fresh fruits are not obtainable.

A leaflet giving some simple recipes for the cooking of dried fruits is among the numerous publications on fruit subjects issued by the N.S.W. Department of Agriculture.

If a man knows not to what port he is steering, no wind is favorable to him.—Seneca.

Area and Production of Vine Fruits in Victoria

Statistics for the Years 1920-1926 Inclusive

	No. of Grow-ers.	Area.		Total Grapes Gathered	Wine Made.	Dried Produce.		
		Bear-ing.	Not Bearing.			Raisins. Ordinar-y.	Sul-tanas.	Currants.
1925-26	2,876	36,091	4,621	2,253,884	1,637,274	54,021	297,485	123,733
1924-25	2,999	31,723	10,744	2,142,349	1,368,765	70,695	296,304	104,948
1923-24	3,047	29,558	13,041	2,707,729	2,177,127	71,993	366,834	150,867
1922-23	2,775	27,550	11,342	1,879,964	1,717,490	67,850	217,670	98,081
1921-22	2,442	24,627	8,548	1,314,839	1,335,066	49,080	141,371	75,042
1920-21	2,066	22,871	6,384	1,072,767	2,222,305	33,150	83,737	62,919

*Of this total the estimated quantity used for making wine, etc., was 280,626 cwt.; for making Raisins, Sultanas and Currants, 1,900,947 cwt.; and for table consumption, 72,311 cwt.

Office of the Government Statist,
Melbourne, February 16, 1927.

A. M. LAUGHTON,
Government Statist.

DRIED FRUIT SALES.

Sultanas Average £64.

During the week ended February 10, the following sales of dried fruits were recorded with the London agency of the Australian Dried Fruits Export Control Board:—

238 tons of Currants at an average price of £35/18/- a ton, and 96 tons of Sultanas averaging £63/19/3 a ton.

The total realisations are now 7,713 tons of Sultanas averaging £68/11/10; 7,125 tons of Currants, averaging £38/1/4 a ton, and 566 tons of Lexias averaging £38/2/4 a ton.

Keep saving—and your savings will by-and-bye keep you.

CANDIDATES FOR PARLIAMENT.

Cr. Bradbury, of Frankston, is a candidate for the Mornington Electorate on behalf of the Australian Liberal Party, and is opposing the sitting Member, the Hon. A. Downward, M.L.A., Minister for Lands. Cr. Bradbury is a successful business man, connected with local Frankston and city enterprises. He is a Councillor for the Shire of Hastings and Frankston, which includes the orcharding districts of Somerville, Tyabb, Hastings, and thereabouts.

Another Liberal Party candidate is Dr. G. Soilleux, the well-known orchardist of Wantirna, who is standing for the electorate of Nunawading. Dr. Soilleux has taken a prominent part in fighting the battles of the fruitgrowers, and one of the planks of his platform is assistance to the fruitgrowing industry. He is also in favor of electoral reform, the appointment of a Minister for Markets, the liberalising of education, unemployment and sickness insurance, etc.

Mr. F. J. Churches, of Kyabram, Victoria, who is so well known among fruitgrowers in the Goulburn Valley and as Secretary of the Australian Fruit Canners' Association, is contesting the Rodney seat at the forthcoming State election, against the Premier (Mr. Al'an). Mr. Churches is standing under the banner of the Country Progressive Party.

MR. W. H. EVERARD, M.L.A.

The sitting member for the now altered Evelyn electorate is popular with fruitgrowers, because of his energy on their behalf, and his return to Parliament is confidently anticipated.

**Sell your Dried Fruit in the
Best Market**

J. YOUNGER

The Independent Dried Fruit Merchant

22 Market Street - - - Melbourne

Will buy your fruit outright, or will export on your behalf at a total Export Cost of £12/10/- average, and a Cash advance of two-thirds London Price.

Commonwealth quota purchased for Cash at Highest Current Rates. No commission. Bank reference and all particulars on application.

BUYER OF ALL EVAPORATED FRUITS

South Australia

Proposed New Produce Markets :: The Hindmarsh Valley

PROPOSED MILE-END MARKET.

IT IS proposed to establish a wholesale fruit and vegetable market at Mile End, near Adelaide. Pressed by the growth of this class of business and the limitation of facilities now available, a site of approximately ten acres adjoining the railway goods yards and connected therewith by a line of railway, has been secured. The site will provide ample trackage, building space, and all the equipment necessary for the expeditious and orderly loading and unloading, sale, storage and delivery of the perishable products handled

western boundary of the Mile End goods yards), and the South-road, Duncan and Fraser's property adjoins it on the north and the South Australian Cold Stores Ltd., City Flour Mills, and Metters Ltd.'s properties of Harris, Scarfe, Elder, Smith and Co., S. Perry, S.A. Farmer's Union, Commonwealth Oil Refineries, Simpson and Son, Hume Pipe Co., and Henry Jones and Co.

Proposed Layout.

There is sufficient space to provide for 60 stores and 900 odd vehicles.

The merchant packers' stores will abutt on to a railway station, 600 feet in length, 15 feet wide, the stores will be 58 feet deep and at the rear of which runs an avenue 30 ft. wide for the intake of fruit and vegetables being delivered from growers' vehicles. The produce, when packed, is delivered out on to the station, where the South Australian Railways officers will accept delivery. Miscellaneous and truck loads of incoming produce intended for merchant packers will be delivered by the railways at the same station.

Merchant packers' stores will contain basement, ground floor trolley high, and upper storey. Commission and private salesmen stores will abutt on to a railway siding with receiving platform, and will be built singly or in pairs, according to requirements, between each avenue; each will have two frontages, one to the railways and one in an alignment with growers' or hawkers' stands.

Vegetables and Fruitgrowers' Stalls.

Provision will be made to accommodate growers on space 8 ft. by 20 ft., with avenues between of not less than 20 ft. each. As in many instances growers will be required to travel about 1½ miles further to the proposed market, it is proposed to give them a decided advantage in their rentals, although they will no doubt enjoy buying their manures, cereals, fodder, hardware and other requisites cheaper at Mile End.

Hawkers.

Stands will be provided for hawkers under the same conditions as growers, but should hawkers prefer not to incur the same rental as growers, provision will be made of paved stands unroofed, at a nominal rental. This provision should be to the advantage of hawkers as they will then have a fixed and permanent place of

business, and can arrive at the market at any time to suit their own convenience, and have their stands waiting for occupation.

Truckers.

As all the merchant packers are adjoining, and their intake in one alignment, truckers will have the advantage of delivering the whole of their load consecutively, with a minimum amount of exertion.

Suitable stores and shops will be provided for grain and hardware merchants, butchers, chemists, drapers, restaurants and banking premises.

INMAN AND HINDMARSH VALLEY CITRUS GROWERS' ORGANISING.

A MEETING of Citrus growers in these areas was held at Victor Harbor on February 10. Mr. C. M. Ives presiding over a representative gathering.

Mr. H. M. Moulden briefly stated

T. J. POUPART

Ltd.

Covent Garden, London, W.C.2
and 3 Love Lane, Eastcheap, E.C. 2

The Premier Firm of Fruit
Salesmen in Great Britain

Sale by Private Treaty only (Gives best results)

Commission the exclusive basis (purchase propositions cannot be considered)

Advances offered to cover freight and accessory charges

Victorian Representative:

FRED. J. ANDREW

416 Little Collins Street, Melbourne

for South Australia.

The principal advantages of this location are that it is practically in the centre of the metropolitan area, it is served by rail, and produce can be received and dispatched both short and long distances with a minimum amount of handling and at a lower cost than any other means of transport; the rates and taxes are very much less than they are in the Adelaide city area; it provides a ready means for economic and prompt dispatch for shipping to the sea board; it shows a saving in cartage of not less than £10,000 per annum; it provides more efficient accommodation for growers, merchants, and buyers, at considerably lower rentals.

The land is situated between Railway Terrace (which runs along the

T. STOTT & SONS

Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

that although the coming season did not give promise of a heavy yield, it was felt that steps should be taken to form an Association, so that they would be prepared to meet the larger production which would inevitably come within a couple of years.

Mr. W. R. de la poer Beresford submitted estimates of the anticipated expenditure to be incurred in the installation of a packing shed equivalent to their present limited requirements. He considered that, although the production for the coming season was expected to be 7,000 cases, within two years it would reach 17,000. It would be possible to finance the proposed scheme on the present output.

Mr. J. A. Parkes (Murray Citrus Growers' Co-operative Association) was present by invitation, and gave a brief resume of the history of Citrus organisation in the various

States, and pointed out that the past season, despite a normal production, had been the most successful since the inception of the movement. This was entirely due to the efforts of the affiliated organisations in co-ordinating marketing operations.

Mr. Geo. Quinn, Government Horticultural Instructor, and Mr. C. H. Beaumont, Government Inspector of Orchards, Southern district, also addressed the meeting.

Messrs. R. Martin and A. J. Humberstone, although in favor of the formation of an Association, considered that the matter should be deferred until next season.

After further discussion, it was resolved that steps be taken to form an Association in time to operate the coming season's crop.

A Sub-Committee consisting of Messrs. A. J. Humberstone, R. Martin, C. I. Grosvenor, H. M. Moulden and W. R. de la poer Beresford, was appointed to prepare a concrete scheme for submission to a general meeting at a later stage.

The Growth of the District.

The planting of Citrus in the Inman and Hindmarsh Valley districts began many years ago on a limited scale. During recent years planting has been fairly extensive, and has now reached 23,000 trees, mostly of the Washington Navel type. The groves are all on alluvial flats and the natural rainfall is so great that little irrigation has been done.

In company with Mr. Quinn, a tour of the two valleys was made, and although very little fruit was left on the trees, there was sufficient in the packing sheds to sample the quality.

The fruit, generally speaking, was on the coarse side, but the flavor was excellent. A sample seen in Mr. Humberstone's shed was equal in appearance to the average standard grade of River fruit, and the flavor was quite equal, if not superior.

That sampled in the Inman Valley was not up to this standard. Mr. Humberstone is in the habit of irrigating during the summer months, whereas in the Inman Valley practically no irrigation has taken place. This possibly accounts for the difference in quality, as the soil conditions of the latter cannot be surpassed, and growers in this area propose experimenting during the coming summer in the matter of irrigation.

A special characteristic of these valleys is the fact that no fruit need be packed until November, so that marketing operations could be extended up to the end of January and later, Messrs. Humberstone and Moulden at the date of our visit (February 10), just having completed the last

of their pack.

The condition of the groves was excellent, the foliage being of a remarkably deep green, but if anything, inclined to be over vigorous. In some instances trees have been planted on soil which has proved too wet, and in the absence of a drainage scheme, many trees have gone out, but at least another 400 acres of Valley land could be utilised and will probably later on be planted.

The proposal in connection with the formation of an Association is that a packing shed be established at Victor Harbor, which is the centre of the two Valleys. A site adjoining the

Bankers:
COMMERCIAL BANK OF AUSTRALIA,
Collins Street, Melbourne.

Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL
Consign your Fruit to
FRUITGROWERS DEPOT
(Licensed and Registered by the Government of Victoria).
Managing Director—M. J. FOY.

Wholesale Fruit and Produce Commission Agents
Importers and Exporters of Interstate Fruit
471 Flinders Lane, Melbourne
TELEPHONE F 1392.
Telegrams: FRUITGROWERS,
471 Flinders Lane, Melbourne.

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

railway line has been selected, and can be acquired.

The fruit will be pooled, but growers will be paid according to the value of the respective grades supplied. The main consideration will be the standardisation of the Association shed pack.

PERSONAL.

Mr. W. Ranger, B.Sc., F.G.S., Manager of the Queensland Committee of Direction of Fruit Marketing, is leaving for America on April 21st, to investigate problems affecting Banana growing and other branches of the fruit industry.

EXPORT APPLES.

Need for Careful Grading.

A cablegram was received recently by the Department of Agriculture, Melbourne, from the Agent-General, as follows:—"American crops Apples very large and exports will probably continue until beginning of April. Our growers should send finest fruits first few boats to secure payable prices."

Commenting thereon, Mr. Ward (Superintendent of Horticulture) desired that attention be drawn to the amended regulations controlling the export of Apples and Pears, which were agreed to by conferences of growers' representatives and Departmental Officers from all States.

Mr. Ward added that if growers were to pack strictly to the requirements of the amended regulations, no fruit would be shipped which could be queried in any market, as, even in the lowest or plain grade, the total area covered by blemishes on any Apple or Pear must not exceed the area contained in a circle having a diameter of half an inch, and that in addition, all fruit in any case must be of the one variety and free from broken skins.

If fruit is packed according to these requirements it should compare more than favorably in quality with fruit shipped to British and Continental markets from any other country in the world.

MARKETING IMMATURE TABLE GRAPES.

It has been noted during the past season that table Grapes have been put on the Melbourne market in an immature condition.

The sale of immature Grapes is prohibited by Regulations gazetted on 23/12/25, in which any Grapes, the juice of which has a specific gravity less than 1.075, are considered to be immature. This gravity corresponds to 10 deg. Baume.

The marketing of unripe Grapes is detrimental to the grower's own interests. Purchasers of these early Grapes, dissatisfied by their unpalatableness, decline to buy Grapes for several days or even weeks, to the detriment of growers who market only ripe Grapes.

Irrigation is no modern discovery. All that we have learned to do in this latter day is to place our modern civilisation safely under the irrigation ditch.



MURRAY CITRUS GROWERS' CO-OPERATIVE ASSOCIATION (AUSTRALIA) LTD.

Report of 1926 Operations.

ACCORDING to a report issued by the General Secretary (Mr. J. A. Parkes), of the Murray Citrus Growers' Co-operative Association Ltd., 1926 season stands out pre-eminently as the most successful in the history of the organisation.

The yield was heavier than anticipated, and an outstanding feature of the marketing operations was the splendid average realisation on the Melbourne market. This was due in part to the decreased yield in Victoria, and the absorption by the Victorian Railways Department of 20,000 cases in connection with their various refreshment rooms and Sun-kist Juice Extractors. Adelaide rates were also very satisfactory.

Melbourne Market.—Between May and December, 90,076 cases were sent to this market, compared with 59,658 cases for 1925, whereas the total number of cases of Oranges disposed of by Victorian growers during this period was 118,045, compared with 148,447 cases in 1925.

Prices showed an average increase of 3/- per case over 1925.

Adelaide Market.—The quantity handled in this market was most satisfactory, exceeding 26,000 cases, as compared with 20,000 in 1925. Mandarins were at times considerably in excess of demand, but Navels were never over-supplied.

Export, 1926.

The original estimate for export was considerably reduced, less than 400 cases (1-1/3 bushel) being shipped from Berri and Renmark. The fruit reached London in a satisfactory condition, and realised a gross average value of 24/3 per case, which may be regarded as satisfactory, in view of the general slump in fresh fruit prices.

Portion of the fruit intended for London was diverted to New Zealand, where it realised a gross average of 23/9½ per case.

Owing to losses in the previous season, no export was undertaken by the Victorian and N.S.W. Associations, and many South Australian growers were reluctant to ship. The most gratifying feature associated with the export is the further demonstration that, with careful handling, Oranges can be landed on the London market in a satisfactory condition.

Gift Fruit.

Arrangements were made by the Executive to forward a case of Wash-

ington Navel Oranges to any addressee in the United Kingdom at a stated price on behalf of individuals, and 143 cases were forwarded. The London Trade Commissioner, commenting on this splendid propaganda work, wrote: "The letters received by me re safe arrival of various cases were all written in very flattering praise of the quality of our fruit, and the forwarding of this large quantity throughout Great Britain and Ireland has proved a remarkably fine advertisement for South Australian Oranges."

Compulsory Levy.

With the object of providing an equalisation fund to meet losses on export, and to better organise the industry, the Victorian and South Australian Associations moved for legislation to secure a compulsory levy on all Citrus marketed within the States. Bills were introduced in both State Parliaments, but have not yet become law.

Interstate Conference.

A conference was held with representatives of the V.C.C.A. at Mildura in June, when a closer co-operative spirit was engendered, and it was resolved to make the Interstate Conference an annual one, the next to be held at Mildura in May next.

Federal Citrus Exchange.

During the year, Mr. C. H. Katakara, a member of the Central Executive, visited California, and on his return reported on the Citrus industry in that country. A summary of his report was published in the "Fruit World." He suggested that a Federal Citrus Exchange should be formed, embracing all Citrus-producing States, and a conference was held in Melbourne in January to discuss the matter.

New South Wales was not represented, their Association considering that the time was not opportune for the formation of an Exchange. Conference resolved to recommend the

Rosella Company, Richmond

are buyers of

QUINCES and MELONS

Any Quantity

Highest Prices Given

various State Associations to work with the object of ultimately forming such an Exchange, in the meantime the present Federal Citrus Council to be enlarged, its functions to include the control and administration of the Melbourne marketing operations, and the market representative, and appointment of agents. It was recommended that these proposals should be given effect to prior to the commencement of the next season's marketing.

Levies on Privately Sold Fruit.

Members are reminded that the levy of 3d. per case is payable on fruit sold privately as well as that marketed through the Association, and they are asked to assist their organisation by making their levy payments in due course.

CO-OPERATIVE CITRUS SELLING.

Gosford and Batlow Growers Operate Selling Floor.

Shareholders of Gosford Co-operative Citrus Packing Houses Ltd., decided recently to establish a selling floor in Sydney. The Batlow packing sheds and several other citrus packing houses are co-operating with them, and it is expected that Queensland Bananas and Griffith Grapes will be included in the lines of fruit to be sold, and thus keep the floor going all the year round.

The shareholders approved a proposal to institute pool-buying of fertilisers, sprays, seed, and other lines used by orchardists, and it was directed that steps be taken to form a separate company with membership restricted to packing-house members to work the scheme.

COLORING CITRUS.

N.S.W. Agricultural Department Tests.

The New South Wales Department of Agriculture, in co-operation with the associated Citrus packing houses, has conducted a successful experiment in hastening the production of a more attractive color in Lemons and Oranges. The trial was made with cases of green Lemons and Valencia Oranges, the last-mentioned while on the trees, having reverted to a green color, which is not uncommon when growers leave the fruit hanging until very late in the season for high market prices.

After five days the Lemons had a particularly attractive yellow color, and the Oranges were devoid of even the slightest trace of a greenish tint.

The data in connection with the trial is being prepared for submission to the Central Citrus Association.

The adoption of this method by the packing houses is regarded as a great commercial asset to all members with matured green-colored fruit, as the process is carried out at a very small cost without affecting in any degree the quality of the fruit. All the leading packing houses in California are using the process. The fact that color is everything in the appearance of Lemons and Oranges means greatly enhanced prices, especially when matured Lemons can be placed on a dear and rising market.

SUBSCRIBERS' PAYMENTS RECEIVED.

We acknowledge with thanks having received, at Head Office, the following renewal subscriptions from our readers up to February 20, 1927. Except where otherwise stated, the payment is made to June, 1927. The list does not include payments to our branches in the other States, nor deliveries through our wholesale distributors.

If any reader wishes to have a receipt we will forward same on application.

Aust. Dried Fruits Assoc., H. Aumann, R. Ashworth, J. Aggett, C. Bayley (Jan., '27), A. C. Arnot (Nov., '26), Burnside & Co., J. Bunce, A. E. Bailey, E. H. Bastian, Bureau of Central Sugar Mills, E. Buxton & Co., N. J. Bennett, F. W. Bailey, W. Blackburn, Joh. Bruce, John Bennett & Son, J. P. Bainbridge, J. W. Bailey, Sone & Sons (Jan., '28), J. J. Charleston, Canterbury Orch'ds. Co-op. W. H. Calvert, A. E. Chave, Cowley & Co., B. F. Cranwell, W. Collyer & Son, A. Copeland, A. Clarke, California Canners Co., F. J. Churches, S. P. Cornish (Dec., '27), C. H. Coleman, June, '26), W. Campbell (Feb., '27), N. Campbell (June, '28), Major Cole (Dec., '27), A. H. Cox (Oct., '27), J. P. Cowley (Aug., '27), W. J. Davies, J. Davies, Robt. Dower, Hon. A. A. Davey, M.L.C., Daily Telegraph, J. Davidson (Oct., '26), Dept. of Agric. (Sydney) (March, '27), H. E. Ewins, J. C. Ellis, L. H. Evans, E. Bin (May, '27), Estate of late G. W. Lewis (June, '26), R. E. Fowler, Sir J. G. Fraser, R. M. Finlay, W. J. Foster, Geo. Frost, S. Fagan, J. W. Fairley (Nov., '27), A. W. Glenn, W. S. Glasson, W. Guppy, Gollin & Co., F. Gottschutke, C. M. Griffith, Thos. Gaudion, S. O. Gregory, A. R. Glover, Glasson Bros., C. J. Grosvenor (Oct., '27), J. Goodwin (Jan., '27), Geo. Holder, H. G. Heyward, N. Harding, G. W. Hester, J. B. Heckley, A. T. Hodgins, B. J. Hannah, O. E. Halliday, J. Handley, Hill Bros., H. Hick, J. Hargreaves, W. Honeybun, T. Haslam, J. T. Hemers, J. Hudson, P. Hansen, Capt. W. D. B. Halhead, G. T. Herbert, R. Hankinson (Aug., '27), A. S. Henderson, W. T. Hudson, J. Howell (June, '28), H. H. Howell (June, '28), H. Holden (Nov., '26), W. A. Irvine, L. E. Iredale, Irydale Packing Co., I.R.M. Co., C. T. Johanson, Hill Jones, D. Johnston, H. Jones, James and Allwood, F. J. Jamieson, M. M. Jenkins (June, '28), E. Kolling, P. V. Kerr, D. Kerr, G. C. Linton, H. Lineker, G. E. Lang, T. B. Lamont, J. Lumb, W. J. Kimbler, J. E. Lee (Dec., '27), H. A. Mills, Knox Moore, J. R. Morris, J. E. Moore, Milburn Bros., J. Martin (Dec., '26), Geo. May (March, '26), W. E. Murray (Dec., '27), A. E. McDougall, J. McLoughlin, J. C. K. McLean, J. McKenzie, R. C. R. Newman, Newton Bros., W. J. Nancarrow, G. M. Newlands (Feb., '27), C. E. Norris (June, '28), H. Overall, F. Olorenshaw, P. Olle (Jan., '27), J. H. O'Brien (Nov., '27), P. L. Price, A. Philp, S. Priestly, L. Pepperell, T. J. Peart, W. A. Paton, H. R. Petty (Dec., '27), Duncan Puckle (June, '28), Paton Hill Progress Assoc. (June, '26), J. H. Roux, R. M. Rudder, T. H. Ray, C. A. Reye, C. H. Ragless, H. E. H. Rolfe, J. G. S. Rose, J. H. M. Reynolds (Dec., '26), Wm. Robson (June, '31), C. A. Stubington, C. F. Scheuffel, Swane Bros., E. Shoobridge, A. R. & T. Strubbs, F. G. Stone, L. C. Sessions, W. Shaw, J. A. Smith, W. J. Sweetman, A. P. Stott, F. Sissons, Geo. Selth & McRae Ltd., F. Spratt, E. A. Standring, Smith & Baldock, G. E. Salt (Dec., '27), H. O. Symonds (June, '28), E. F. Stelmetz (Sept., '26), W. C. Thomas & Sons (Tynong), W. Townsend, S. A. Thornell, O. A. Tucker, Thompson Bros. Ltd., A. H. Taylor, A. Thiele (June, '31), Union S.S. Co. of N.Z. F. W. Veat (Dec., '28), F. L. Vines, H. Vince, Geo. Vincent, J. Valentine, G. T. Worcester, N. C. Webb, R. H. Woodland, J. Woolf, H. B. Wadnuff, C. Walker, H. G. Williams, J. F. Wynne, M. Walters & Co., A. Wilkinson, C. Wedge (June, '26), Geo. Wood (June, '28), C. Warren (June, '28), R. M. Waddell (Jan., '28).

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,

11 Neal St.,

COVENT GARDEN
LONDON, W.C.

and at
Jamaica House.

9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

FORTHCOMING CITRUS CONFERENCES.

It is proposed to hold the Annual Conference of the Victorian Central Citrus Association at Mildura during the last week in March, to be followed by an All-Australian Citrus Convention at Renmark (S.A.) the first week in April. All citrus growers in Australia are being invited, and interesting lectures and discussions will take place.

Queensland

Current Notes : The Home of the Custard Apple The Fruit Marketing Act

(By our Correspondent)

UNTIL practically the end of 1926, drought conditions were more or less prevalent throughout the fruitgrowing districts, but the current year has started well toward the other extreme. Excessive rainfall has been almost general, but more particularly so in the coastal districts. Small floods are reported in places, but the damage occasioned thereby has been infinitesimal.

The continued saturation of the ground has been decidedly harmful, and heavy downpours have, where slopes are defined, removed an appreciable quantity of the surface soil. In the range country several land slides are reported, and three or four Banana plantations lost their bearings. Sundry residences have also been moved out of their alignment, and in doing so failed to preserve the perpendicular.

The damage on the whole is not very extensive—that is so far as evidenced at present amongst orchards.

On lower lands a fair percentage of Peach trees have succumbed to excessive moisture, and odd plots of Citrus and Custard Apples look sickly. The full effect on the trees will not be fully evidenced for some time, but it can reasonably be expected that any suggestion of

deficiency in drainage will be felt later. This applies particularly to Pineapples, even though practically all roots be destroyed, a fresh appearance will be maintained until well on in the year.

Bananas have luxuriated in the warm steamy atmosphere, and every feature points to a bounteous return of first-

class fruit. The industry being taken up seriously in the north plainly indicates general improvement with bounteous supplies at a moderate rate.

The question has already arisen, or rather been resurrected—is it profitable to drain land for orchard purposes. As a practise this is not recommended, though in some cases warranted.

Citrus trees are the most susceptible to injury, and it is unfortunate that due care has not been invariably applied in the selection of sites—nor locality. Proximity to market has its advantages—also its disadvantages, and it will undoubtedly be recognised later that our most productive and all-round most profitable Citrus lands are not situated in the coast districts.

Pineapples are adapted to coastal lands only, and the fruit deteriorates with distant carriage. In the most forward localities and where found necessary—pipe drains at not less than 3 ft. beneath the surface level are warranted.

The continued wet weather has practically suspended all operations in the field. Weeds have made profuse headway, and if not earnestly tackled with the scythe will provide sufficient seed for several seasons. Though seeds of many of our troublesome weeds do not retain their vitality beyond two years, others seem almost indestructible, and land which has not been turned up for years in some of the older places is often infested with such quantity as to ensure a complete covering with the pests on being brought to the surface.

Fruit markets have been but slightly disorganised by unfavourable weather, though the demand was somewhat curtailed as also were supplies.

Prices for temperate fruits have been above the average, though the annual complaint regarding immaturity has some foundation in fact.

The marketing problem is always to the fore, particularly in respect of Bananas, and the position has advanced well into the ludicrous stage. The market agents, the Banana exchange (reputedly also agents), and the C.O.D. operating, and each supplying the press with daily market reports. The C.O.D. is usually a bad last in respect of the quantity handled, which carries but one

construction regarding the appreciation of its earlier methods of compulsion, limitation of agents, etc., as applied to the Banana industry. The whole business is grossly uncomplimentary to the suggestion of co-operation amongst fruitgrowers—musaculturists especially.

The present Pineapple crop will be well up to expectations in quantity, but unless dry weather is shortly experienced, the carrying quality will be poor.

Citrus trees have recently blossomed and set a fair crop (usually referred to as second crop) but fruit, even if matured from summer flowering is barely worth handling—being thick skinned, and very deficient in juice or flavor. If allowed to remain on the trees, spring flowering will be poor.

In the northern part of the State the quality of fruit is unaffected by season of maturity. Equally fine quality has been present throughout crops matured in December in the Cook district—which suggests that under irrigation fruit could be made available throughout the year. Isolation and most costly transport for the present are likely to remain responsible for such facilities remaining undisturbed. Cooktown, which in the days of the Palmer gold vied with Brisbane for customs collection, has practically qualified for inclusion amongst deserted villages.

REDLAND BAY

Mr. James Collins, Redland Bay, Queensland, writes under date, January 29, 1927.

The principal fruits grown in this district are Pineapples, Citrus, Custard Apples, and a few Bananas; about 30 years ago, the principal fruit grown there was Bananas, but on account of the large quantities then grown in Northern Queensland, and no market in the Southern States on account of the large quantities of

SYDNEY:

Fruit Commission
Merchants Agents

S. & M. Greenberg

No. 1 Store
Fruit Markets, Sydney
Also at Melbourne Markets

Tasmanian Shipping No. 161.
Victorian Shipping No. 42.

PROMPT RETURNS

GENUINE KUNDE

Budding & Grafting Knives
also Pruning Secateurs
NOW AVAILABLE

Prices on application to

L. P. ROSEN & SON
NURSERYMEN

EPPIING - - N. S. Wales

Bananas imported from Fiji to Sydney, prices dropped so low (about 1d. to 2d. per dozen), that it became necessary to try other kinds of fruits, and ever since then there has never been any large area of Bananas planted in this district, but the few grown at the present time compare very favorably with any grown in other parts of the State, both as regards size and quality; a small consignment of Cavendish marketed from this district last week realised 1/4½ per dozen.

Pineapples are about up to the usual quantity as regards the crop this season, but are about two or three weeks later; the quality of the Redland Pines is always good.

Citrus.—Oranges, with the exception of Navels, are not nearly so heavy this time, neither are Mandarins, the same cause having affected them, as with the Pineapples, namely lack of rain during the spring months. For some reason the dry weather has not affected the Navels; these promise a heavier crop than usual, the same can be said about Lemons; there has been a very heavy crop of bloom on a good few of the Citrus since the rains, and there is likely to be a heavy second crop.

Custard Apples.—This is the principal fruit crop now grown in the Redlands area (which truthfully can be said is the home of the Custard Apple) possibly half the area under fruit consists of Custards; up till within a few weeks ago the prospects for a crop seemed very remote, but since New Year the bloom is setting well, and as the trees will keep blooming up till the end of March, there will probably be a good (if not a heavy) crop of fruit.

FRUIT MARKETING ACT.

No Ballot by Growers.

Compulsory Organisation Condemned.

"Organise, but, Avoid Semi-Governmental Concerns."

(To the Editor, "Fruit World.")

Sir,—When the "Fruit Marketing Act" was being debated in the House, the Opposition—mainly Country representatives, fought hard but unsuccessfully for a ballot being taken by Fruitgrowers before the Act was proclaimed.

The Opposition knew that the Conference of Fruitgrowers that asked for a "Bill" did not by any means represent 75 per cent of the growers as claimed by the Minister in charge of the Bill. The Conference probably

represented 75 per cent of the growers' Associations or local Associations, which latter were mainly mere imaginary Associations created by the Primary Producers' Organisation Act. Any 15 farmers could register as a Local Association, and it was from these "skeletons" that fully 80 per cent. of the delegates to the Conference were drawn.

Fancy the eight or ten members attending a Local Association meeting, presuming to represent the hundred or even more of the growers in their district!

The Minister further asserted that the Bill had been submitted to the

the scheme." This is correct, but, as not more than 10 per cent. of the growers were "registered" members of an L.P.A., the inference is wholly incorrect.

To show how cruelly the growers were deceived, the Minister, when speaking to the Bill, said, "The Fruit Conference unanimously adopted the scheme as outlined in the Bill." Yet Mr. Macgregor years later, stated in the printed "apologies" above referred to, that "the week after the Conference, the whole scheme was embraced in a draft Bill for Parliament, which was submitted to the Government at the request of the Growers' Conference."

How a conference, sitting on July 19, could unanimously adopt a "Bill" which Mr. Macgregor admits was drafted a week after the Conference sat, can only be explained by Mr. Macgregor himself!

Had Messrs. Macgregor and Ranger taken the Conference into their confidence and told it, in honest English, that the Bill was to give the Committee of Direction absolute property rights over all fruit, even on the plantation or orchard. That, in spite of their joint assurance that "That fruit which has been marketed for years by growers, through one agent, shall still go through that agent," they intended including in the "Bill" authority for the C.O.D. to cut out our long-established agents—which they did, the moment their Act came into operation.

That the C.O.D. intended charging growers single ton rates of freight, and pocketing the 40 per cent. rebate allowed on full-truck loads.

That any agent in the South, who refused to rebate to the C.O.D. 1 per cent. of the commission paid by growers, would not be supplied with any Queensland fruit.

That the C.O.D. intended to cut out all agents in Brisbane dealing with Bananas (about £60,000 of trade), and to establish their own selling floor, and:

That the salary bill of the C.O.D. in Brisbane alone would run into £7,000, the claim to have had the approval of the growers would have been true.

Had these intentions been disclosed to the Conference, we Banana growers would not have had to pay £3,000 in appealing to the High Court in order to exercise our common right as free men, to sell our produce where we pleased, and Mr. Ranger would probably be still growing fruit and making more than the £1,250 a year that his services are valued at!

Under the amended Act (forced by

COVENT GARDEN,
LONDON
Ridley, Houlding
& CO.,
Large Receivers of Australian
Fruits.
Solicit Consignments of
Apples, Pears, &c.,
Best market prices and prompt
account sales returned.
Correspondence invited.
Representative in Victoria
THE
International Fruit & Mercantile Co.,
410 Flinders Lane, Melbourne
MURDOCH BROS., Hobart

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
 { Victoria Markets

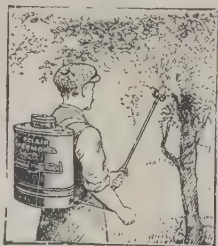
MELBOURNE

Reference—Satisfied Growers in all States

growers' representatives, and had their unanimous approval.

The value of this assertion (which is not true) may be gauged from a pointed statement issued by Mr. L. R. Macgregor, the "Director" of the Council of Agriculture.

Dealing with the Fruit Marketing Organisation, and referring directly to the "scheme," he said, "Every registered fruitgrowing member of all L.P.A.'s, was supplied with a copy of



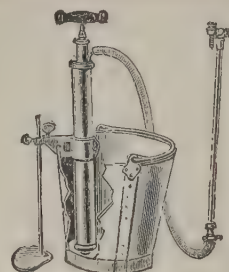
The "Eclair" Spraying Fruit Trees.

FOR

SPRAYING, LIMEWASHING AND DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL
Before Placing Your Order ASK A FRIEND
WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER



— TO TELL YOU HIS OPINION OF IT — ACTUAL USE IS THE BEST TEST —

The types made include the following:—
HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS

BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED HAND POWER SPRAYER.
high pressure model (220 lbs. per square inch)
CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS

POWDER BELLOWS
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS
3 H.P. MOTOR SPRAY OUTFITS

LIQUID CAPACITIES 1½ pints to 88 gallons.

PRICES FROM 4/- each.

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON E.C.2

the Banana growers, action in ignoring the C.O.D. and its pretentious authority and running a "free" train to the South) the C.O.D. is no longer a Committee of Direction, as it cannot issue a "direction" until a ballot of growers concerned has been taken, and further, the C.O.D. now has to take its instructions from the Sectional Committees (Pines, Bananas, Citrus, etc.).

Thus, after the growers had been grossly misled (and not without considerable profit to those responsible), we Queensland growers have an "Act," which would certainly have been accepted by the July Conference, for the simple reason, that the growers, and not the "C.O.D." now control their own business, and as this is what I have fought for for nearly 20 years, I can retire satisfied!

The amended Primary Producers' Act, declares the C.O.D. to be a Commodity Board—hence the term Committee of Direction is meaningless.

According to the C.O.D. statements, they have drawn £43,082 in railway freight rebates, and £11,028 in rebates on our commissions, every cent of which came out of the growers' pockets, and 80 per cent. of it out of Banana growers.

My object in trespassing on your space is to warn Australian growers to have nothing to do with self-appointed "Saviours" and semi-Governmental stunts, but to organise, and above all, not to delegate their inherent right to control their own business to any Board or Committees.

Little comment is needed on the action of those responsible (the Government) in deciding what constitut-

ed a "registered grower" after the full required number of bona fide growers had demanded a ballot on the continuance or otherwise of the "Fruit Marketing Act." The "weeding out" reduced the requisite 500 to 496, and the demand was refused.—Yours,

MUNRO HULL.

Eumundi, Queensland, 24/1/27.

THE C.O.D.

Sir,—It seems to be the order of the day that experiments in production and distribution of primary products must be made either directly or indirectly under Government control.

The "Fruit Marketing Organisation Act" (Queensland) passed in 1923, comes under the latter heading, the Government at the present time being represented on the Committee of Direction of Fruit Marketing, and such representation carrying with it an influence greatly in excess of any other member, or possibly section of members.

The "C.O.D.", as it is usually termed, has issued two annual reports, the first dated June, 1925, and the second, June, 1926. The first report has been described by the press and by two prominent members, as "flamboyant," and it seems a pity that with the opportunity that this concern has for success, that they should issue a report capable of receiving such criticism.

But it is with the second annual report (June, 1926), that I desire to call the attention of your readers. On pages 23 and 24 reference is made to "sympathetic legislation in America"

and by implication that the American people are in accord with the pretensions of the C.O.D., and the greater part of a page is devoted to the "Dickinson Bill," as evidence. The old saying, that "you should not count your chickens before they are hatched" might be changed to, "do not count the eggs before the hen has laid them." The "Dickinson Bill," boosted as a "farmer's relief Bill," was never even presented to Congress. The Haugen Bill, which was a price-fixing measure, was "reported" by the Agricultural Committee, but with a strong minority report presented a few days afterwards and was rejected by Congress by a large majority on June 26 last. The Americans will not stand for any price fixing measure, nor will they in the present Congress discuss a Bill like the "Dickinson" Bill when they have thrown out, by large majority, a Bill of similar nature.

The "Californian Cultivator," in a sub-leader says:—

"The sooner those engaged in agriculture realise that the passage of freak legislation, such as the Haugen and Dickinson Bills would act as a boomerang to the industry, and get together in an honest effort to work out their own salvation, the quicker agriculture will make the desired recovery."

The C.O.D. have another lease of life for three years, but that they are not the darlings of the fruitgrowers, that they stand pretty much in the same category as what the "Californian Cultivator" describes as "freaks" can be shown by the fact that, of the

green Bananas sent to Brisbane market for sale, the latest returns show that they receive 22 per cent. only, whilst the selling agents receive 78 per cent.

Government may point the way, but it takes private enterprise to carry the road through.—Yours, etc.,
W. SAM JOHNSON.

Brisbane, 1/2/27.

APPRECIATION FROM SOUTH AFRICA.

Your paper is too interesting to miss a copy.—D. Kilpin, Piquetberg C.F., South Africa.

'Phone Central 8479

F. W. Vear

**Fruit Importer
and Exporter**

COMMISSION AGENT

**49 WILLIAM ST.,
MELBOURNE, VIC.**

Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.

Account sales with cheque daily.

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

**Fruit Brokers . .
and Auctioneers**

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.



GIBBS, BRIGHT & CO.—See Page VI



POULTRY AS A SIDELINE.

Of the various sidelines run in connection with farming, poultry is not only the most profitable, but at the same time it requires less work and attention than any other, stated Mr. G. Herbert, at the Nantanarra Branch of the South Australian Bureau of Agriculture (S.A. Journal Agriculture). Unless one proposes spending a certain amount of money on building extensive houses, etc., the birds will do better if allowed to run at large than penned in wire-netting yards.

It is necessary to have a house for hens, and for the average farmer who prefers to keep, say, 200 to 300 hens, if there is a patch of bushy scrub as far as is conveniently possible from the stables, haystacks, sheds, etc., it will make an ideal place to erect a fowlhouse. This should be constructed of galvanised iron, and a small yard attached to the front will be found very convenient in which the fowls can be closed at night as a safeguard against foxes.

The correct amount of room to provide in a house is at least 1 sq. ft. for each hen. For instance, a house built 10 ft. square will comfortably accommodate 100 hens.

There are several breeds of fowls that are good layers and good utility birds, but White Leghorns are well above any others for egg production, and Black Orpingtons can be placed second. Many people favor a breed such as Black Orpingtons on account of their being good table birds, but so far as actual profit is concerned, one cannot do better than keep White Leghorns.

Always start by selecting a good laying strain.

It will pay to buy a breeding pen for the first year, say, six or eight hens and a cockerel, from which can be reared sufficient chickens to give a good start the next year. Such a pen will probably cost from 15/- to 25/- per bird. Another good plan is to buy, say, 100 chickens, which will cost from £5 to £7/10/-.

Unless cockerels are required for breeding, the best way is to dispose

of them as soon as they can be identified. This is where White Leghorns score over other birds. A White Leghorn cockerel can nearly always be detected at a fortnight old. If it is kept for three months, the White Leghorn cockerel will by then be almost matured and begin to fatten, whereas a Black Orpington or a cockerel of any other table strain will have practically no meat on them until they are seven or eight months old.

To rear 100 White Leghorn pullets to five and a half months old will cost 4/- per bird. Five and a half months is the age at which White Leghorn pullets commence to lay. Rearing 100 pullets to this age will cost £20, and for the next 12 months they will cost approximately 7/- per head, amounting to £55 to rear and feed for one year after they commence to lay.

During the year, if properly cared for, they should return 200 eggs each, and at an average price of 1/3 per dozen, will amount to 20/10 per bird, or £104/3/4 for the 100 birds, making a total profit of £49/3/4 on the 100 pullets for the year. For the second year these hens will still eat about the same amount of food, say, 7/- per head, but for about four months of the year they will be moulting instead of laying. This period being when eggs are at their highest price usually, the average price of their eggs can only be reckoned at about 1/1 per dozen. They will only lay about 12 dozen in the year, amounting to 13/- per head, or £65 for the 100 hens. After that year the egg yield decreases proportionately, so that it will pay better to market them after the second year.

At the end of the second year they will probably be worth 2/- to 2/6 per head for table hens, if fat. The time needed to care for, say, 300 fowls, which number can be kept fairly conveniently on most farms, will be from half to one hour per day all the year round.

The feeding is a very important part, and the easiest, simplest, and most economical way is to use dry mash for morning feeds and corn in the evenings. Hoppers can be con-



Keeping Poultry for Eggs

IF ever success in feeding and keeping fowls meant anything to a poultry owner, it is now. Prices are not only high at present, but will remain so during the next four months. What then is the use of keeping fowls if they're to be idlers for the whole of this time? Now when others have made such an unqualified success of keeping fowls and it costs you next to nothing to follow their example, isn't it worth giving it a trial? What better guide is there than the actual result not of one, but of thousands of "backyarders" and poultry owners generally? We quote below the actual results of a poultry owner whose plan is to feed with Karswood Poultry Spice (which contains dried and ground insects). This testimonial is typical of the many hundreds received.

Wonderful Results

Dear Sirs,—

I have had such wonderful results from using Karswood Poultry Spice, I think it only fair to add my praise in common with other users. I have only eight laying hens, one or two real old, and the result in laying has been marvellous since I commenced using Karswood. They look so well also. I would not be without it, and intend to rear more in future.

Yours, etc.,

(Sgd.) M. ASKEY.

9 Dalhousie Street, Haberfield.

From 4 to 17 Eggs a Day

Dear Sirs,—

I received the Spice safely, and I am very pleased that you sent it along so early, because I was nearly out. You desire to know the results that I have obtained from the use of the spice. I am only a new beginner.

I have 30 hens fit to lay now. Before I got your Spice, I only got four eggs, and sometimes two a day. Since the use of the Spice I have the result of 17 eggs a day.

(Sgd.) H. C. ROSE.

Webb's Creek.

Supplies

"Karswood" Poultry Spice is obtainable from all Stores and Poultry Food Suppliers at the following standardised prices:—

½lb. packet	Price, 1/-
1lb. packet	" 2/-
7lb. tin	" 13/-
14lb. tin	" 25/-
28lb. tin	" 48/-

If your local dealer cannot supply you, write direct to Messrs Henry Berry & Coy. Pty. Ltd., 568-580 Collins St., Melbourne—adding postage—6d. on ½lb. packets and 9d. on 1lb. packets to the above prices.

structed simply and effectively in which to feed dry mash, and if made large enough, will only need replenishing every three or four days. These must be kept in a dry place, and the trough from which the fowls feed must have cross bars so that the fowls cannot waste the grain.

The sides of the trough should also be sufficiently high to prevent the birds rooting out the grain with their heads. Green feed is essential, but where hens are running at large, they can get green feed at their convenience for about eight or nine months of the year. If not, a lucerne patch is advisable. Failing fresh green feed, a sheaf of green hay can be put through the chaffcutter, and a tin of this chaff, with a gallon of boiling water poured over it and covered down overnight with a few bags, makes an appetising meal and an excellent substitute for green feed.

Clifford Barnsbee

Export & General Agent
Display House, 323 Bourke Street
MELBOURNE

Sole Representative in Victoria
and Tasmania for
MORGAN & WILMINGTON,
Turbot Street Fruit Exchange,
Brisbane.

Reference.—Primary Producers'
Bank of Australia.

B. P. B.

B. P. BROADBENT,
City Market, Sydney.

Reference.—E. S. & A. Bank,
Haymarket.

Also "Elephant" Brand Spray,
Blackburn Casemaker Pty. Ltd.,
and Wrapping Paper.

Agencies in

Covent Garden, London, and
Germany.

Phone: Central 1837.
Cables—"Finson," Melb.

Fresh grain should be supplied every evening. There is always a certain amount of hay litter, chaff, and rubbish from around the stable, haystacks, etc., to be removed, and if this is tipped in the vicinity of the fowl-yard, it makes splendid scratching material, and all the grain in it is readily consumed. If the other grain is thrown in the litter in the evenings, the birds will consume what they want before going to roost. There will still be some grain left in the mornings, and this will help to keep the birds from the stables, stacks, etc.

For hatching, I prefer the incubator. If a few broody hens are available when the incubator is started, hatching is simplified, because if there is a hen with a batch of chicks the same age as the incubator chicks, she will take 30 to 50 of the incubator chicks, and if kept in a small yard with a cosy roosting-box for a few days, she will rear them admirably and save

any further trouble. Incubators are very simple, and if the manufacturer's instructions are followed, usually successful.

THE BUSY BEE.

Working Colony of 40,000.

The communal activity of the honey bee was shown in detail at the Smithsonian Institution at Washington, recently. A colony of three-banded Italian bees, about 40,000, was installed in a glass observation hive in the old National Museum Building. A 12-foot glass tunnel led through a window to the outdoors, and two continuous streams of bees passed one another, one stream weighed down with pollen and honey and the other going out empty. Soon after the installation of the hive, each line adhered to the right, indicating that traffic regulations had already been established. Every activity of the bees could be seen by the public. The glass tunnel enabled the visitor to see the incoming workers with the pollen baskets on their hind legs puffing out to bursting point.

Occasionally a honey-laden bee would meet an outgoing bee who was hungry, whereupon the former fed honey to his comrade. Within two minutes after the tunnel was opened to the out-doors the active bees carried out those that were no longer of use, carrying them a good distance away before leaving them. Still others began the work of aerating the hive, and a constantly changing detachment of 10 or 12 workers keep up this task. They did this by standing at the mouth of the hive and fanning their wings with incredible rapidity, thus causing a current of air powerful enough to blow away particles of wax and other debris. Within the hive itself thousands could be seen feeding the young, depositing honey making wax, or themselves eating. In short, the exhibit presented an example of one of the most perfect communal organisations known in nature.

LIGHT VERSUS DARK HONEY.

The honey which meets the most ready sale at the present time is light in color—the nearer to water-white the more attractive it appears to the buyer. The very light honey, too, will win the championship at agricultural shows. Yet many of our darker honeys have an excellent flavor, remarks the Senior Apiary Instructor of the N.S.W. Department of Agriculture, and it is considered are of higher food value.

One point, as mentioned by the

French chemist, Alin Caillas, is of interest in this direction—"The presence of iron in honey is not illusory. The most positive chemical analysis reveals it in variable proportions. From this viewpoint, the honeys most prized by the consumer are manifestly inferior; they usually contain but little iron, while the dark honeys of unattractive appearance contain much more iron."

Most of the darker honey is produced in this State during the autumn. It seems as though nature has provided for the bees in this direction, so that to withstand the hardships of winter they will have a food of superior chemical composition. It would mean a good deal to the industry if people could be induced to accept more of our darker honeys of good flavor, thereby to some extent accepting food value in preference to appearance.

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

RED HILL AND DISTRICT SHOW.

The annual show of the Red Hill and District Agricultural and Horticultural Society will be held on Wednesday, March 23. A special train, connecting with the 9.6 a.m. and the 9.20 a.m. (express) from Melbourne, will leave Frankston at 10.40 a.m., at holiday excursion fares.

The ring events and log chops are worth seeing. Other exhibits include fruit, farm and dairy produce, fancy work, cooking, etc. A demonstration of fruit preserving is to be given by Miss Knight, of the Agricultural Department.

Red Hill is a beautifully situated fruit-growing district, lying between Dromana and Flinders, overlooking the two bays and the ocean.

Further particulars, schedules, entry forms, etc., may be had on application, from the Secretary.

Western Australia.

The Season's Crops :: Orchard Work for March

Some Impressions of the Fruit Crops.

A Record Harvest.

"I estimate that the Apple crop in W.A. will reach one million bushels this season," recently stated Mr. J. Ramage, one of the field-officers of Messrs. Paterson and Co. Ltd., Perth. Mr. Ramage had just completed a tour covering 3,500 miles through the main fruitgrowing districts, including Mt. Barker, Cranbrook, Tambellup, King River, Kalgan River, Napier River, Bridgetown, Manjimup, Donnybrook, Boyanup and Capel. In each district visited, the Apple crop, in both mid-season and late varieties, was showing very prolific, the fruit being of exceptional color and well up to grade. This is due to the mild spring and summer conditions up to the present time.

"Owing to the effects of fuscladium," continued Mr. Ramage, "the Pear crop is very light this year. When the trees were in full bloom, very rainy conditions rendered spraying almost impossible; in many cases the trees were sprayed as much as five times, with very little result—as soon as the spray was put on it was washed off again.

"The stone fruit crop in this State during the past season has not been a heavy one, and consequently prices have been very fair right through the season.

"With regard to export, the season is going very well. F.O.R. sales are exceedingly good, and will show the growers a very nice return for their labor; 75 per cent. of the crop has been sold to buyers on the f.o.r. basis.

We are looking forward to exporting to overseas and eastern States markets at least half a million cases of Apples and Pears from Western Australia for the 1927 season. Owing to the lightness of the Apple crop in the Eastern States, we are looking forward to being able to ship late varieties, such as Yates, Rokewoods, Statesman, Dougherty, etc., if satisfactory prices are likely to be realised."

Mr. Ramage's trip occupied four weeks, during which practically every place of note was visited, and the orchards inspected. The districts were looking well—in fact, the State is enjoying a record harvest in nearly every line.

The fruit handling firms in W.A. operate on different lines from those in the Eastern States; their officers go out to each district, inspect the orchards and estimate the crop for the growers, and arrange for its disposal on their behalf on f.o.b., f.o.r., or consignment basis. Very little fruit is exported on consignment.

Many growers are now using the partly-dressed jarrah cases for export. The side and top and bottom boards being smoothed, and with edges rounded, the wrapping paper is not torn by splinters, and there is less damage from bruising. These cases cost an extra 9d. per dozen, and are proving very satisfactory.

WESTERN AUSTRALIA.

Seasonable Work for March.

Picking and packing, both for local markets and export, is the order of the day during this month. In fact, March is the big month of the year for harvesting operations.

In the export season last year some growers forwarded fruit for export which showed infestation by San Jose Scale. The regulations prohibiting the export of any fruit so affected is still in existence, and growers must realise that if a consignment comes to hand at the port, and upon examination San Jose Scale is found to be present, even slightly, the whole of the consignment of the variety in question will be refused a permit to export.

Spraying in San Jose infested orchards received a lot of attention last winter, and there should be little difficulty this season in selecting only clean lines for export.

This is the month of the year, above all others, when fruit fly is most in evidence, needs most attention, and, because of pressure of other work, is often most neglected; but there is no work in the orchard which is so absolutely essential as the control of this pest, for if it gets beyond control the results of all other work are negated.—G. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture."

SHIP YOUR FRUIT TO GERALD Da COSTA



Head Offices—
**Floral Hall, Covent Garden,
LONDON, W.C.2**

Importers and Distributors of
all kinds of English, Colonial
and Foreign Market Produce

BRANCHES:

COVENT GARDEN, W.C.2.
8, Russell Street.
524, Central Avenue.
Stand, 151, English Flower Market.
Stands, 31, 32, Foreign Flower Market.
Apple Warehouses, Jubilee Market.
Tel.: Gerrard, 868 and 5786.
Telegrams: "Geracost, London."
Stands, Nos. 151, 152 and 153.
Spitalfields Market, E.1. and 54 Brushfield Street, E.1.
Telephone: Avenue 8804.
Telegrams: "Spitacost, London."
Apple Warehouses:
Church Passage, Spital Square, London, E.1.
3, 4 and 5, The Arcade, Borough Market, London, S.E.1.
Telephone: Hop, 3373.
Telegrams: "Borocost, London."
G.N.R. Potato Market, King's Cross, N.1.
Telephone: North 1482.
Telegrams: "Kincrocost, London."
13 & 17 Victoria Street, Liverpool.
Telephone: Central 888.
Telegrams: "Geracost, Liverpool," (Facing Commercial Sale Rooms.)
Deansgate, Manchester.
Telephone: Central 7156.
Telegrams: "Geracost, Manchester."
17, Humber Street, Hull.
Telephone: Central 4041 Y.
Telegrams: "Geracost, Hull."
Southampton Docks.
(Facing No. 45 Shed.)
Telephone: Southampton 2610.
Telegrams: "Geracost," Southampton.
Eclipse Yard, Westgate, Mansfield.
Telephone: Mansfield 440.
Telegrams: "Geracost, Mansfield."

A man passes for what he is worth. What he is engraves itself on his face, on his form, on his fortunes, in letters of light, which all men may read but himself. Concealment avails nothing.—Emerson.

Brand Your Fruit Cases and Bags

with

CALDWELL'S STENCILLING INKS

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

(Continued from Page 111)

and my information is that the prices obtained at that market compare very favorably with prices at London markets.

The industrial upheaval last year naturally caused severe hardships, but these conditions have been largely allayed, and we may confidently look forward to a time of peace and prosperity.

The trade in fresh fruit between the Dominions and the Home Country has been built up in the face of severe competition, without any form of control, and the field for further expansion is by no means exhausted, therefore, we look forward to a development in your exports of fresh fruit to the Hull market, brought about on the one side by the enterprise of our importing firms, and on the other by a growing confidence amongst the producers in these Dominions.

The Honorable T. Paterson, Minister for Markets and Migration, very courteously granted me an interview on February 10, when I made known to him the anxiety which was being caused at Home, owing to the active efforts in certain quarters to bring about legislation for a Fresh Fruit Export Control Board.

This Minister said the proposed legislation was deemed necessary because that a large number of producers had requested the Control Board, but that such legislation, even if passed, would not be put into operation unless a majority of producers voted for its adoption.

I have now been in Australia several weeks, and I find that there is evidently a great

diversity of opinion

on this subject, and although the functions of such a Board have not apparently, as yet been definitely defined, it is certain that the Board, if brought into existence, would work in conjunction with a London Agency.

This factor alone gives cause for most anxiety, as in order to develop Empire trade to its fullest, Dominion produce must be marketed over as wide an area as possible. This principle is the one which in the past, has governed individual enterprise.

For those commodities exported by your Dominions, already under Control, our trading community has not in the past received a share, and after much deliberation the Hull Chamber of Commerce decided to set up a number of separate Committees to deal with such of these commodities; these Committees have placed themselves into touch with the Dried Fruit and Dairy Produce Control Boards, suggesting that they should furnish the

names of influential firms of high standing, who could market a proportion of their goods.

The Dried Fruit Control Board is, I understand, following up this proposal, and following an interview with the Dairy Produce Control Board, I now understand from their Secretary, that they also are placing themselves in touch with the Hull Chamber of Commerce.

This, Gentlemen, gives you some idea of the enormous difficulties to be overcome when handling any particular commodity, through one given channel, and should the commodity in addition, be of

a perishable nature,

such a task must be doubly difficult.

It seems to me a grave risk would be incurred by controlling so perishable a commodity as fresh fruit, when your products are already firmly established on the markets, situated at the outports of Great Britain, where a development of trade is what we are looking for.

It has been said that this proposed Control Board would get information from England in advance, as to what quantities each centre could consume, which information would be placed before the Board before the season commenced, and growers would be advised to send accordingly, and agents would be given licenses to ship to such ports.

Gentlemen, if this were the organisation to be adopted, would this not have the effect of

killing the F.O.B. trade,

which I have always understood you have been so anxious in the past to build up.

Again, I understand from the Minister of Markets and Migration, that the Control Board could be in a position, and would when necessary,

to divert shipments

from one port to another, should the conditions ruling at the original port of destination, be unfavorable at any particular time; quite how this could be satisfactorily arranged is not clear to my mind, as a ship's cargo consists of a variety of commodities for certain ports of destination—how then, without very considerable expense and delay, could additional ports of destination be arranged?

I am only asking these questions, because I feel that this Control of Fresh Fruit now being sought, is fraught with

such grave risks,

not only to the producers, but to all those interested in the development of this trade between your Dominion and the Home Country.

American Competition.

As any opportunity would undoubtedly be seized by foreign competitors, such as the Americans, if such opportunity be given them to increase their shipments to our markets by mismanagement on our part.

I am extremely grateful to you for the courteous invitation you have so kindly extended to me, by asking me to address your Association. I do hope that by putting my case before you, you will realise that I am only anxious to do all in my power to increase our direct trade, and that if I have expressed certain anxieties to you, they are very real ones, which I hope will receive your mature consideration, so that whatever the outcome may be, our mutual interests will be fully protected.

This will then assure, Gentlemen, that our trade within the Empire, will go steadily forward, and we may look for the time when the Empire will eventually become self-supporting, an object everyone of us should strive for.

Discussion.

In the discussion which followed Mr. Williamson said that if a Control Board were formed, the F.O.B. trade and the development of British outports would be safeguarded.

Mr. L. G. Cole said that in his opposition to the proposed "Control" the speaker would have plenty of supporters.

Mr. Bailey said the object of control was to bring the various bodies together in England to prevent overlapping.

Major Cole: "As a kind of Advisory Committee?"

Mr. Bailey: "Yes. As fruit would be shipped under license, any man who endeavored to send inferior fruit could be penalised by the taking away of his license."

Mr. Lang said that prior to the war, Hamburg was a good market, being a good distributing centre for Europe, and it was once thought that Hull could thus act in distributing fruit for the Continent.

Major Cole was accorded a hearty vote of thanks. In reply, he said his visit was caused through the anxiety occasioned in the Home country because of concentration in London, which had already taken place with the other goods from Australia under "Control." There was a steadily growing population in the North-east section of England, and in the area served by Hull, and it would be a pity, now that trade from Australia was being developed along normal business lines, for a new factor to enter and upset calculations.

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS.

Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.

VICTORIA.

Melbourne.

Fred. J. Andrew, 416 Little Collins St., Melbourne.
Clifford Barnsbee, 323 Bourke St., Melbourne.
Producers' Dist. Society, Western Market.
Cave, F. & Co., Melbourne.
Davis, J., Western Market.
Fruitgrowers' Depot, 471 Flinders Lane, Melbourne.
Lister, G., Western Market.
Mills, A. & Sons, Western Markets.
Mills, J. B. & Co., Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L. Little Bourke Ross, J. W., Western Market.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.
J. Younger, Melbourne

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Finlayson & Son, Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters, and at London.

Launceston.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Auckland.

Turners and Growers Ltd.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.

GREAT BRITAIN.

London.

Da Costa, Gerald, Covent Garden.
M. Isaacs & Sons Ltd.
Margeson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Pask, Cornish & Smart, Covent Garden.
T. J. Poupert Ltd., Covent Garden.
Ridley, Houlding & Co., Covent Garden.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Exchange.

Wull.

White & Son Ltd.

Coventry.

Rowell Bros. & Davis.

Manchester.

Manchester Ship Canal: Australasian Representative, Capt. W. J. Wade, 8 Bridge St., Sydney, N.S.W.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Asthelmer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hanburg.
Fruchthandel Gesellschaft, Fruchthof.
Stier, Aug., Fruchthof.
Reos J. B. Mills & Co., Bank House, Melbourne.
Timm & Gerstenkorn.

BRITISH MARKETS.

American Fruit: Poor Quality and Low Prices.

Liverpool (12/1/27).

Messrs. J. C. Houghton and Co., report that the market for American Apples remains depressed, with no prospect of a rise. While some good fruit is being received, much is in an unsatisfactory condition, the softer varieties showing a good deal of waste. Box Apples from Oregon and Washington yielded as follows:—Newtown, 7/6, 13/-; Winesap, 8/-, 10/9; Spitz, 5/6, 8/-.

Nova Scotia.—A fair supply has been available, quality for the most part being satisfactory, though Baldwins, in particular, are running rather small. Prices are only moderate and do not look favorable to shippers.

	No. 1.	No. 2.
Baldwin ..	17/9 20/-	14/- 16/6
Fallwater ..	17/- 21/-	13/9 17/3
Stark ..	17/3 18/9	15/6 17/3
	Dom.	No. 3.
Baldwin ..	14/9 16/6	12/- 14/-
Fallwater ..	14/- 17/3	12/6 14/-
Stark ..	15/6 16/-	12/- 14/-

Ontario.—A few have arrived and have been promptly disposed of; superior lots did well:—G Russett, 27/-, 33/-; Stark, 16/3, 20/-.

Pears.—Winter Nelis—Fresh arrivals met with fair demand, but this has weakened during the last few days and quotations are lower now than they were at the end of last week. The Pears are admirable and deserve a better fate.

Oregon and Washington.—Winter Nelis, box, 9/3, 17/6.

The total arrivals of American and Canadian Apples from the commencement of the season to January 12, were 982,952 barrels and 694,025 boxes, as compared with 762,068 barrels and 617,909 boxes last season (barrel equals three bushels); Pears, 57,350 barrels and 102,104 boxes, as compared with 66,679 barrels and 104,566 boxes last season.

AUSTRALASIAN MARKETS.

Victoria.

Melbourne (22/2/27).

The following were the ruling wholesale quotations at the Western Market yesterday:—Grapes, Raisin de Dame, 6/- to 8/-; Waltham Cross, 7/- to 9/-; Gordos, 6/- to 8/-; Tomatoes,

special, 7/-; A grade, 5/- to 6/-; B grade, 4/- to 4/6; Peaches, white flesh, special, 12/- to 14/-; A grade, 10/- to 11/-; B grade, 6/- to 8/-; yellow flesh, special (well colored), 9/- to 10/-; A grade, 7/- to 8/-; B grade, 5/- to 6/-; Pears, W.B.C., special, 12/-; A grade, 8/- to 9/-; B grade, 6/- to 7/-; Plums, dark, 5/- to 8/-; light, 5/- to 6/-; eating Apples, 7/- to 10/-; special, 12/-; cooking Apples, first quality large, 7/- to 8/-; medium, 4/- to 5/-; Passion fruit, special, 12/- to 14/- half case; medium quality, 6/- to 10/-; Lemons, medium size, first quality, 25/- to 30/-; Oranges, choice, 30/- to 35/-; Pineapples, Queens, 12/- to 14/-; Bananas, special, 24/- to 25/-; choice, 20/- to 22/-; standard, 15/- to 18/-.

South Australia.

Adelaide (10/2/27).

Apples (eating), 12/- to 14/- per case; cooking, 10/- to 12/-; Bananas, 38/- to 40/-; Figs, 9/-; Lemons, 14/- to 16/-; Melons (sweet), 28/- per cwt.; do. (water), 16/-; Oranges (blood), 17/- per case; Peaches, 8/-; Strawberries, 1/- doz. lbs.

Western Australia.

Perth (15/2/27).

Apples, Jonathans, prime, flat cases, 4/6 to 9/-; others, 2/6 to 4/-; cookers, 2/6 to 5/-; Pears, 3/- to 7/3; Oranges, 6/6 to 13/-; Lemons, prime, 8/6 to 10/6; others, 3/- to 8/-; Passion Fruit, 3/6 to 7/-; Peaches, 12/- to 21/-; Nectarines, 4/- to 14/6; Plums, Climax, 3/6 to 7/6; Grapes, open cases, 6/- to 9/-.

Tasmania.

Hobart (19/2/27).

Apples, Gravenstein, choice, 8/- to 9/-; fair, 6/- to 7/-; medium, 4/- to 5/-; J.G., good, 7/-; medium, 4/- to 5/6; St. Lawrence, good, 7/6; medium, 6/6; P.A., 4/6 to 5/6; Alf., 5/- to 6/3; W.P.M., extra choice, 8/6 to 9/-; choice, 7/9 to 8/-; Peaches, best, 7/6 to 8/6; medium, 5/6 to 6/6 per half case; Pears, best, 5/6 to 6/-; others, 2/6 to 4/6 a case. Plums, light, 6/- to 7/-; dark, 5/6 to 6/6.

Queensland.

Brisbane (19/2/27).

Local Fruit.—Lemons, prime, 6/- to 7/-; others, 4/- to 5/- a half case; Limes, 5/- to 7/6; Pineapples, smooth leaf, prime, 8/-; others, 6/- to 7/- a case; 1/6 to 5/6 a doz.; rough leaf, 1/6 to 3/6; 8/- to 10/- a case; Passion Fruit, 4/6 to 10/-; Peaches, 4/- to 8/- a half-bushel case; Mangoes, 5/- to 10/-; Stanthorpe Grapes, black, 4/- to 6d.; white, 3d. to 6d.; Muscatels, 6d. to 7d.; Roma Grapes, 4d.

to 5d. a lb.; Pears, 7/- to 11/- a case; Apples, 5/- to 11/-; specials, 12/- to 13/-; cooking Apples, 8/- to 14/- a bushel case; Papaws, 2/6 to 8/-; Persimmons, 2/- to 4/-.

New South Wales.

Sydney (24/2/27).

Mr. F. Chilton, City Fruit Markets, Sydney, reports:—

Queensland Fruits.—Bananas, 12/- to 24/- per case; Pines, Smoothleaf, 6/- to 9/-.

N.S.W. Fruits.—Bananas, 12/- to 24/- per case; Lemons, 12/- to 24/- per bushel case; Oranges, Valencia, 12/- to 23/-; Apples, green cookers, 6/- to 8/-; Jonathan, etc., 6/- to 13/-; Pears, W.B.C., 8/- to 13/-; Quinces, 5/- to 9/-; Passions, 10/- to 25/- per half case; Plums, 4/- to 11/-; Peaches, 4/- to 9/-; Grapes, Black Hamburg, 4/- to 7/-; Black Muscat, 6/- to 10/-; Tomatoes, 2/- to 5/-; Cucumbers, 1/6 to 4/-.

Victorian Fruits.—Pears, W.B.C., 6/- to 13/- per bushel case; Peaches, 6/- to 12.

Tasmanian Fruits.—Apples, Alx., 5/- to 8/- per bushel case; M.C., 5/- to 7/-; W.P.M., 8/- to 11/-; Alf., 5/- to 7/-; Pears, W.B.C., 3/- to 5/- per half case.

Tasmanian Apples have been arriving in excess of requirements recently, and as many of the consignments consist either of varieties not in favor by buyers or of immature fruit, the market has been overstocked and prices have suffered. For well developed, nicely-colored varieties, a good demand at satisfactory prices is expected.

Queensland Pineapples have been over-supplied during the past fortnight, and the prevalence of "Water Blister," together with large quantity on the market, has contributed towards lower prices. An improvement is likely during the next few days.

New Zealand.

Dunedin (11/2/27).

Messrs. Reilly's Central Produce Mart Ltd., reports full supplies of Tomatoes, fruits and vegetables, which commanded good prices. Apples, Red Astrachans, Gravensteins, choice, 12/- to 14/-; cooking, 9/-, 10/-; Bananas, Suvas to land, 27/-; ripe, 35/-; Lemons, Californias, 300/360's, Festive brand, 30/-; Mission brand, 32/-; Oranges, American Navels, 47/6; Grapefruit, 33/- per case; local Grapes, 2/-, 2/2½; Oamarus, 1/6, 1/10; Figs, 1/-, 1/5½; Mulberries, 8d.; Cherry Plums, 2d.; choice desserts, 3d., 5½d.; Apricots, choice, to 8d.; mediums, 4d., 6d.; Nectarines, choice, 6½d.; mediums, 3d., 5d.;

Peaches, jam, 2½d., 3½d.; desserts, 3½d., 7d.; Pears, Jargonelles, 2d., 3d.; W.B.C.'s, 2½d., 3½d.; Walnuts, choice Akaroas, 1/-; Peanuts, choice, 5d.

LONDON MARKETS.

Prospects for Australian Exports.

Mr. H. G. Colombie, Temple Court, Melbourne, has received from his London principals, Messrs. M. Isaacs and Sons Ltd., a report regarding the prospects for the coming Australian export season.

Messrs. Isaacs state that the prospects are much brighter than last season. This is due chiefly to—(1) reduced quantities available for export; (2) the Spanish Orange crop has been severely damaged by frost; (3) the industrial position appears much brighter; (4) the Health Authorities and the press have ceased their arsenic scare; and (5) there is a reduction in freight.

It is stated that the American crop is a large one, but it is doubtful if its keeping qualities will allow it to extend into the Australian season. Prices have not been satisfactory owing to the large quantities available, box Apples of finest varieties fetching not more than 11/- to 12/-.

Messrs. Isaacs point out the immense importance of shipping only fruit of the first quality. They advise that the export of large and small fruits should be cut down to a minimum, exporters concentrating on the medium sizes. Care should be taken in packing and grading, and all fruit should be papered.

During the past season Messrs. Isaacs handled over 140,000 packages of Australian fruit. They look forward to a successful season.

ADVERTISING AMERICAN APPLES.

We acknowledge with pleasure, the receipt of specimens of "Skookum" advertising material from the Skookum Packers' Association Inc., Wenatchee, Washington, U.S.A. Included were attractive posters, window cards for shopkeepers, handsome price tickets, recipe books. The Association receives 2,000 requests per week for all sorts of advertising material.

In addition to this form of advertising, the Skookum Association advertises in a large number of newspapers and 12 magazines. The advertising material was displayed at the recent meeting of the Victorian Apple and Pear Growers' Association, and created much interest.

APPLE GRADING REGULATIONS.

THE NEW REGULATIONS have been issued under the Commerce Act regarding the export of Apples and Pears from the Commonwealth. Under the new regulations the inspectors can reject fruit showing spray marks.

"Standard" Grade.—The new regulations provide that "Apples or Pears described as 'Standard' shall consist of sound, clean, well-formed Apples or Pears of one size and one variety, free from broken skins and not seriously blemished or injured by any disease; but fruit slightly blemished by black spot fungus, caterpillars, hailmarks, or limb-rubs may be exported provided the total blemishes do not exceed 10 per cent."

"Plain" Grade.—Apples or Pears described as "Plain" shall consist of Apples or Pears of one size and one variety, free from broken skins, and not seriously blemished or injured by any disease; but fruit slightly blemished by black spot fungus, caterpillars, hailmarks or limb-rubs may be exported provided that the total area covered by such blemishes on any Apple or Pear does not exceed the area contained in a circle having a diameter of half an inch.

The diameter of Apples shall not in any case be less than 2 inches.

The regulations in regard to size provide that no Apples or Pears of less than the minimum size stated on the case shall be included in any grade.

AMERICAN APPLES.

A cable message from the Fruit Marketing Board received on February 23, confirmed the statement that American Apples were not keeping satisfactorily, thus indicating a shortening of the season and a lessening of competition for early arrivals of Australian fruit.

4,000,000 PACKAGES OF FRUIT.

The Poupart Sales Service operates in every important consuming centre in Great Britain, and receives fruit from every producing centre in the world. During 1926 this firm handled over 4,000,000 packages of fruit, and paid £200,000 in freight. Through an error, the amount is stated in Messrs. Poupart's advertisement, which appears on p. xix. of this issue, as 400,000 packages.

We are advised that Messrs. Poupart's Western Australian agents are Messrs. Fordhams Ltd., Fremantle.

Fruit Growers & Shippers!

Compare the Prices at MANCHESTER

(Christmas Sales)

With those realised at other British Ports

The figures are from "The Agricultural Market Report" (24th December, 1926), an Official publication issued weekly by the British Ministry of Agriculture and Fisheries, to indicate average prices realised for produce sold at various markets during the preceding week.

Average prices for FRUIT sold at the following markets during the week ended 22nd December:

DESCRIPTION.	APPLES.									
	Bristol.		Hull.		Liverpool.		London.		Manchester.	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
	quality	quality	quality	quality	quality	quality	quality	quality	quality	quality
CALIFORNIAN.	case.		case.		case.		case.		case.	
Newtown	11.6	9.6	10.0	9.0	9.0	8.6	10.0	8.0	11.0	10.0
Red	12.0	10.0	11.0	9.6	10.6	8.6	11.0	9.0	12.0	11.0
OREGON.										
Newtown	15.0	13.0	13.6	11.0	14.0	11.0	14.0	10.0	17.0	14.0
Red	12.0	9.0	12.0	10.6	10.6	9.6	12.0	9.0	13.0	11.6
OTHER AMERICAN	barrel		barrel		barrel		barrel		barrel	
Baldwin	27.0	23.0	21.0	16.0	22.0	16.0	22.0	20.0	28.0	25.0
Greening	28.0	24.0	27.0	24.0	24.0	22.0	28.0	26.0	32.0	25.0
York Imperial	26.0	22.6	23.0	18.0	21.0	16.6	24.0	20.0	30.0	25.0
NOVA SCOTIA.										
Baldwin	24.0	18.6	20.0	15.0	18.0	16.0	21.0	16.0	25.0	22.0
OTHER CANADIAN.										
Baldwin	28.0	24.0	—	—	23.0	20.0	—	—	30.0	25.0
Greening	32.6	25.0	—	—	26.0	23.0	—	—	32.0	25.0

NOTE.—Approximate weights: Cases Apples, 40 lbs. Barrels, Apples, 126-144 lbs.

The Port of Manchester

Was Third amongst the Principal British Ports in 1925, according to official figures issued by the Board of Trade,—the value of cargoes handled being £115,647,548.

The Manchester Ship Canal and Docks

are 28 feet deep, the latter situated 40 miles inland; they are equipped with modern appliances for the most economical handling and distribution of every variety of produce—all berths being in direct communication with main line railways.

Returns for 1925 showed that the Banker's Clearings at MANCHESTER were £814,237,000—exceeding those of Hull, Bristol, Newcastle-on-Tyne, Birmingham and Liverpool combined—a sure indication of commercial and industrial activity, and proof that

MANCHESTER

Is Unexcelled as a Market and Distributing Centre.

If difficulty is experienced in securing Manchester direct tonnage, report immediately to—

Capt. W. J. WADE

Representative of the Manchester Ship Canal Co.

8 Bridge Street, SYDNEY

Cables and Telegrams:—"Portoman," Sydney.

Phone: B 5818.

Tasmania

News and Notes :: Export Regulations :: Work in the Orchard

THE WEATHER conditions during the recent month have been most variable, alternating from cold rainy spells to extremes of heat. To-day the thermometer touched 102.4 F., which is a record for Tasmania.

During the early part of the month a strong gale was experienced which affected the earlier Pear varieties. Apples were not then sufficiently developed to suffer much injury. Hail squalls are reported from Bagdad, Derwent Valley and the S.E. districts (Premaydena), some orchardists, where the full effect was felt, having their crops severely bruised and pitted by the hail-stones.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

Growers are everywhere making preparations for the coming season, the first shipment of early varieties being forwarded to Sydney, on January 28, and commanding high prices, colored varieties bringing up to 18/- per case. As generally experienced, owing to the high prices, growers have concentrated upon this market, and over supplied the demand, especially for culinary varieties. To-day a heavy slump is reported. It is a pity that some voluntary organisation could not be formed to try and minimise the risk of gluts upon our home markets. Under present conditions each grower is acting individually and unknown to his neighbors, and it is possible even in a season of shorter supplies than the present, that periods of gluts will be experienced solely owing to the lack of any organisation to feed the different markets according to their requirements.

Export Regulations.

From the first of January the administration of the Commonwealth regulations as applying to fresh fruit and other primary products shipped out of Australia was transferred from the Customs Department to the Department of Markets and Migration.

The Minister in charge of the Department, Mr. T. S. Paterson, M.H.R., synchronised the new order by at once putting into effect the amendments which have been recommended by the representative fruitgrowers' bodies and State Departments for the last two years, and which the Customs' Department had "under consideration" for that period, although the alteration has come rather close to the export season, growers welcome the change.

Besides improving the grades it will put the packing and inspection on a more practicable basis, and prevent the smaller-sized Apples from being included in the better grades of fruit.

The amendments which have been brought into force also have another added importance. The position has now been reached that complete uniformity in respect to branding and grade requirements exists, both for interstate and overseas trade, and a grower can place a consignment upon the wharf, knowing that the contents and brands will allow it to be forwarded to Sydney, Brisbane or the United Kingdom.

Control of Overseas Fruit Exports.

During the first week in February the Minister for Markets and Migration (Mr. T. S. Paterson), visited Tasmania at the invitation of the State Fruit Advisory Board to meet and address growers on the necessity for organising this trade on a more efficient basis. Mr. Paterson, in company with the Chairman of the Board (Mr. Neil Campbell, M.H.A.), and the State Fruit Expert (Mr. P. H. Thomas), visited the principal centres, comprising Exeter, Launceston, Lilydale, Bagdad, Huonville, Cygnet, Geeveston and Hobart—at all of which large and enthusiastic attendances were present.

The Minister must feel rather proud of his visit to this State, as he achieved what is believed to be a Tasmanian record, receiving an unanimous vote of approval to the scheme in seven districts, and a big majority in the district in which there were a few dissentients.

The visit of Mr. Paterson has cleared up a lot of misconceptions as to the actual operation of the proposed Board, and also refuted a number of misrepresentations which were advanced from certain quarters. It is understood that a Bill will be brought before the Federal Legislature early in March to give effect to the principle and that before this can become operative it must be supported by a simple majority of a referendum of exporters throughout Australia.

Arsenic Scare.

Although exporters generally considered that the "arsenic bogey" had been laid to rest, reports have been received that a number of American consignments have been held up again this season for having more than the maximum allowance of spray residue, and that prosecutions have followed.

If such information is correct, the Australian exporter must take no risks of having his fruit condemned from this cause, as one prosecution

**Fruit Shipments
United Kingdom
and the Continent**

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.

AND HOBART, TASMANIA
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

would have a serious effect on Australian consignments as a whole, and might seriously prejudice their sale upon the overseas markets. A number of analytical tests were made of varieties grown under different conditions of treatment in Tasmania last season, and in all cases only infinitesimal traces of contamination were found, which were considerably under the maximum allowed by the British authorities.

Associated Selected Agents, Sydney.

At the invitation of the State Fruit Advisory Board, a delegation from the Associated Selected Agents, Sydney, comprising Messrs. A. J. Cooper, J. Roughley and W. Musgrove, visited Tasmania at the end of February, for the purpose of meeting growers in the different districts and addressing them in regard to the requirements of the N.S.W. markets, and the general policy to follow in forwarding consignments during the season.

The delegates, together with members of the Fruit Advisory Board, addressed meetings at Huonville, Geveston, Middleton, Bagdad, Exeter Spreyton and Scottsdale.

Growers generally are appreciative of the action of the Board in making these meetings possible, as, besides valuable marketing information being imparted to those attending, an opportunity was given for the discussion of other matters which are of mutual import to the producer and selling agent.

Fruit Shows.

The Annual Fruit Shows held in the different districts of the State will commence this month, the following being listed for March and April:—

March 26—Kettering	Channel District.
„ 30—Moonah	Glenorchy
April 2—Newnham	E. Tamar
„ 9—Exeter	W. Tamar
„ 18—Kingston . .	Kingsborough
„ 23—Bagdad	Bagdad

ORCHARD NOTES FOR MARCH.

(By P. H. Thomas, State Fruit Expert.)

OWING TO THE ACTION WHICH IS BEING TAKEN BY THE BRITISH AUTHORITIES TO PREVENT THE IMPORTATION OF APPLES WHICH CARRY EXCESSIVE QUANTITIES OF ARSENIC, GROWERS ARE SPECIALLY WARNED AGAINST SENDING ANY FRUIT FORWARD IN A CONDITION THAT MAY PREJUDICE THEIR SALE OR RECEIPT UPON THE ENGLISH MARKETS.

During this month the attention of Apple and Pear growers will be wholly directed toward the harvesting and marketing of their crops.

The general quality of the fruit this season is excellent; the careful attention that has been paid to spraying, manuring and soil culture by the majority of growers, together with the favorable weather conditions, has produced a crop that is well grown, of good size, and generally free from skin blemishes.

Picking and Packing.

Unless this operation is carefully carried out a good deal of bruising may be caused, especially amongst tender varieties such as Sturmer, Jonathan and C.O.P. The fruits should be gathered, with the stalk attached, into picking bags, and gently deposited into the orchard cases.

Amongst some growers there is a practice to pick direct into the export cases. This generally results in the

case becoming soiled or stained, and when packed it presents an unattractive appearance. Under no circumstances should "windfalls" be mixed with fruit picked from the tree; although such fruit may look alright, it is invariably bruised, and besides endangering the carriage of whole packages, will considerably detract from the appearance of the fruit when marketed.

Orchardists!

Hardwood Dump Fruit Case Shooks

6d. each in truck loads

F.O.R. Bairnsdale

A. Palmer & Co.

Bairnsdale Sawmills
and Produce Stores

Bairnsdale, Victoria

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and —
— economical on the market —
We manufacture a complete range —
— of Sprays for the Orchardist —
including Arsenate of Lead (paste and powder), Lime Sulphur, Red Spraying Oil, Copper Soda Mixture, Benzole Emulsion, Spray Spreader etc., etc., etc.

Prices and particulars on application to

PARSON & JAUQUES
Manufacturing Chemists

6 Patterson Street }
155 Yarra Street } **Abbotsford, Vic.**

The following varieties will be suitable for overseas shipment during the early part of the month:—

Apples.—Cox's Orange Pippin, Ribston Pippin, Alfriston, Duke of Clarence, King Pippin (Adams Pearmain), whilst toward the end of the month Jonathan, Cleopatra, Scarlet, and Delicious and Dunns will be ready for export.

Pears.—Beurre Bosc, Beurre Clairgeau, Beurre d'Anjou and similar export varieties which have sufficiently matured, may be shipped in the early part of the month. It is advisable to

defer Giblins, Doyenne du Comice, Winter Cole and Winter Nelis, until later in March, as in the majority of districts these are not sufficiently developed until that period.

Cases and Branding.

It is now unnecessary to place the "Guarantee of Contents" brand upon fruit that is forwarded to "overseas" and interstate markets. Although growers are relieved of this brand, the regulation as to the size of cases will be strictly enforced, and any that are either over or under the range allowed by the regulations as to the standard cases will be rejected.

The branding and grading requirements of cases for both "interstate" and "overseas" markets are now uniform, the Commonwealth authorities having amended the "Plain" grade to a more practical basis of operation. Consignments intended for "overseas" must bear the additional word "Australia," which is generally placed on the lid.

Another alteration is the method of sizing. Whereas it was permissible to allow a range of one-eighth of an inch above and below the size marked on the case, the new regulation prohibits the packing of fruit that is below the size stated.

The grower's name or registered brand, with the word "Tasmania" should be placed on the end of the case, together with the variety, size and grade. This will occupy about two-thirds of the space, the remainder being left for the agent's number. It is advisable to brand each end of the case so as to facilitate sorting and stacking.

Copies of the Export Regulations, together with a chart depicting the recommended method of branding and maximum blemish allowance may be obtained upon application to the Agricultural Department.

TASMANIAN FRUIT EXPORTS.

Expected Decrease on Last Year's Record.

Arrangements have been made for 33 overseas steamers to call at Hobart during the present fruit season to load Apples and Pears for the English and Continental markets. If sufficient cargo offers, a further three boats may call at the end of the season.

There are indications that the 1927 season will not, as regards the number of steamers calling, and the quantity of fruit exported, reach the total of the 1926 season, when a total of approximately 2,100,000 cases were exported in 40 steamers. Owing to the failure of crops in mainland States, there has been an increased demand from mainland markets.

"To Choose the Best is Wisdom"

PROTECT YOUR PROFITS

By

Sending your Fruit to Market

Carefully Sized

Carefully Packed

Carefully Branded



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

The old time methods of marketing are obsolete. The public DEMANDS that their fruit shall be given them in PERFECT CONDITION & UNIFORM SIZE

Your certain way of Protecting your Profits is to use a "LIGHTNING" Fruit Grader
This is the only method to ensure a Perfect Pack of Uniform Size and Unvarying Quality
Made in Models to suit all conditions

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

Catalog on Request

Fighting Insect Pests in the Orchard.

Light-brown Apple Moth.

The small green active caterpillars of this moth are exceedingly numerous at the present time. The moths deposit their eggs on the Apples and leaves, causing much damage by eating holes in the fruit. Late Apples are particularly liable to be attacked. They are easily destroyed by spraying with arsenate of lead, 1 in 25.

"Snout Moth (Pinara) of Apple."

The grey caterpillars of this moth have made their appearance in orchards this season. The caterpillars are rather difficult to detect as they resemble the color of the Apple-tree bark, on which they are often found. At times a fair amount of damage is caused by them to the fruit-spurs of Apple and other fruit trees. Spray with arsenate of lead.

Painted Apple Moth.

Owing, no doubt to the continued dry season, the hairy caterpillars of this very destructive moth, are more numerous than usual. They are particularly destructive to the fruit spurs of fruit trees, especially Apples. Spray with arsenate of lead.

Woolly Aphis or American Blight.

These insects are now making much headway in some orchards. It is advisable to apply to the local Orchard Supervisor for supplies of Aphelinus mali, or to spray with red oil or nicotine sulphate. Nicotine sulphate and red oil is highly recommended. The best time to apply this spray is during the winter months when the trees are free of leaves. To prepare sufficient mixture to treat 100 trees, 1 lb. soap should be boiled in a gallon of water till dissolved; add 1 gallon of red oil, and mix thoroughly; then add 1 pint of nicotine sulphate, and after mixing the whole for a few minutes, add 80 gallons of water. If the water is hard, a small piece of washing soda should be added.

Red Spider and Bryobia Mite.

These mites are exceedingly numerous at present owing to the exceptionally dry weather. In some orchards the leaves of nearly every Apple tree are a yellowish color through the ravages of these mites. It is hardly worth while spraying at the present time as the leaves will

soon be falling. In winter, after pruning, the trees should be sprayed with lime-sulphur or red oil. All fallen leaves should be raked up and burnt.

Codlin Moth.

Keep a look out for the late brood of codlin moth caterpillars. It is advisable to examine the hessian bands, also any loose bark on fruit trees to destroy the hibernating larvae of this moth. All fallen Apples, Pears, etc., should be picked up and destroyed by burning or feeding to pigs.

Looper Caterpillars.

Several species of looper caterpillars are fairly numerous in orchards in February and March. They eat small holes in the Apples, causing the fruit to become unsightly. Spray with arsenate of lead, 1 in 25.

EMPIRE CHRISTMAS PUDDING.

A Christmas pudding made from Empire produce, was presented to H.M. the King. It consisted of Australian Sultanas, Raisins and Currants, South African Raisins, Canadian flour, Demerara sugar, British suet, Apples and eggs, Jamaica rum, and Indian spices.

PEARSON BROS.

(FRUIT BROKERS) LTD.

27 Victoria Street
LIVERPOOL
ENG.

Cables : "Blenheim"

Bankers : Midland Bank Ltd.
LIVERPOOL

Consignments of Australian
and Tasmanian Apples
Solicited

We have had over twenty
years experience in selling
and distribution of this fruit

References Given
Correspondence Invited

PEARSON BROS.

(Fruit Brokers) Ltd.

27 Victoria Street
LIVERPOOL
Eng.

Cables : "Blenheim"
Bankers : Midlands Bank Ltd.
LIVERPOOL

Agent required for
supervising shipping
and
advising consignments

Letters to the Editor

TRADE OF THE PRINCIPAL BRITISH PORTS.

(To the Editor, "The Fruit World.")

Sir,—So much attention has been concentrated of late on the advantages or otherwise of decentralising trade via such British ports as provide the most economical routes for distribution of produce or shipment of manufactured goods, that I feel no apology is necessary for quoting the following extract from a report presented to the Directors of the Manchester Ship Canal Company in December last:—

"Manchester—The Third Port of the United Kingdom."

The Port of Manchester has again secured the third place in order of importance on the value of cargoes handled during 1925.

The trade of various ports as shown in the Board of Trade's Annual statement, is as follows:—

London	£745,425,872
Liverpool	£579,680,083
Manchester	£115,647,548
Hull	£115,083,167

It is interesting to note the steady growth of the value of cargoes entering and leaving the Port of Manchester during the past five years. In 1921 the figure was £86.5 millions, the next year it rose to £92.0 millions, then to £94.1 in 1923, and up again to £114.6 in 1924, finally reaching £115.6 last year.

This continued increase is more striking in view of the fall in values of many commodities since 1921."

Manchester is near the centre of the most important industrial area in Great Britain, and when it is remembered the Port is relatively new, and that acute industrial depression prevailed throughout the period under review, it will be realised that the effect of economic pressure and consequent diversion of an increasing volume of trade to the most economical routes is reflected in the Board of Trade's official returns.—Yours faithfully,
WM. JNO. WADE.

FRUITGROWERS AND ORGANISATION.

(To the Editor, "Fruit World.")

Sir,—Mr. J. W. Bailey's plea for unity in the fruit industry, as published in the "Herald," does not, to my mind, sound the right key.

He is quite out of tune with hundreds of growers, but seeks to force his views on us, and because some of us object, we are publicly abused;

for he says—"We must take no notice of such as these!"

Can anyone tell me who Mr. Bailey is, to make such remarks; or who he represents?

Quantong wants nothing to do with men of his stamp, and has shown it practically by minding its own business; and refusing to join an organisation whose chief aim seems to us to be to hog-tie our industry and business.—Yours faithfully,

C. H. JOST.

Quantong, 29/1/27.

COVER CROP FOR CITRUS AND OTHER ORCHARDS.

(To the Editor, "Fruit World.")

Dear Sir,—In your issue of September 1, 1926, on page 400, you make reference to green manuring in Queensland orchards, and in the same issue you give some interesting information re California Citrus industry, including the methods there adopted of manuring, but you do not emphasise the extent to which in Californian orchards *Melilotus indica* has in recent years almost entirely superseded other cover crops for green manuring.

In view of the suitability to the conditions in most of our fruitgrowing districts, its great possibilities as a cover crop and green manure, the cheapness of the seed, and the ease with which a stand can be obtained, it should be worthy of extensive trials in this country. I have been in California twice within the last three years, and was very impressed with the fruitgrowing areas, and the rapidity with which new methods of procedure are adopted once it has been actually proven worth while.—Yours faithfully,

A SPENCER WATTS.

(Hillsdon, Watts & Co.)

Seedsmen, Mascot, Sydney, N.S.W.,
25/1/27.

[We thank Mr. Spencer Watts for his interesting comments. At all times letters are welcomed from our readers.—Ed. F.W.]



(GIBBS BRIGHT & CO.,—See Page vi.)

PUBLICATIONS RECEIVED.

Mersey Docks and Harbor Board (Liverpool).—Accounts for the year ended July 1, 1926, which shows a total income of £3,398,510/16/8, and total expenditure of £3,384,354/3/10. In 1752 the amount of dock duties received at the Port of Liverpool totalled £4,249/6/3; in 1926 it was £2,450,843.

Empire Marketing Board.—Catalogue of an Exhibition held at the Royal Academy, London, of original Posters, designed to help the marketing of Empire produce.

Advertising Australian Fresh Fruit.—A booklet explaining the publicity campaign carried out in Great Britain by the Australian Fresh Fruit Advertising Committee, with the object of increasing the sales of Australian fruit. The campaign included press advertising (advertisements appeared in 11,000,000 copies), posters, showcards, editorial publicity, window displays by retailers, bus and van advertising, kite advertising at every cricket match in which the Australian Eleven took part, Empire Shopping Weeks, etc. The following results are claimed:—(1) It identified the fruit as Australian fruit; (2) It induced the public to ask for Australian Apples instead of being put off with stale stocks of American fruit; (3) It was

of general propaganda value to Australia; (4) It created a stronger demand for fruit.

Third Annual Report of the South Australian Irrigation Commission, 1925-26.—Summary will be included in our next issue.

Victorian Railways Magazine.

"More men are beaten than fail. It is not wisdom they need or money, or brilliance, or 'pull,' but just plain gristle and bone. This rude, simple, primitive power which we call 'stick-to-it-iveness' is the uncrowned king of the world of endeavor . . . People are utterly wrong in their slant upon things. They see the successes that men have made and somehow they appear to be easy. But that is a world away from the facts. It is failure that is easy. Success is always hard. A man can fail in ease; he can succeed only by paying out all that he has and is. It is this which makes success so pitiable a thing if it be in lines that are not useful and uplifting."—Henry Ford.

Budding Knives.—Messrs. L. P. Rosen and Son, Nurserymen, Epping, N.S.W., announce by advertisement that they have supplies of genuine Kunde Budding and Grafting Knives for pruning. Prices are available on application.

Red Hill and District Agricultural and Horticultural Society

SIXTH

Annual Show

will be held on the SHOW GROUNDS
(opposite State School)

Wednesday, 23rd March

A Special Train connecting with the 9.6 a.m. (stopping train), and the 9.20 a.m. (express) from Melbourne, will leave Frankston at 10.40 a.m. Holiday Excursion Fares will be charged.

Splendid Exhibits of Fruit, Vegetable, Farm and Dairy Produce.

Fancy Work, Cookery, etc., also Horse and Cattle Sections. Ring Events.

A Demonstration of Fruit Preserving will be given by Miss Knight, of the Agricultural Department.

Further particulars, Schedules, Entry Forms, etc., may be had on application to the Secretary,

**H. W. AMOS,
Red Hill, Vic.**

Fruit For Great Britain

THE PORT OF HULL

is

Excellent Equipped for Rapid Handling of Fruit Cargoes
Nearly Seven Million Packages Imported during 1925
SALES HELD THROUGHOUT THE YEAR

QUICK DESPATCH

by the

London & North Eastern Railway

To All Parts of the Country

Further information gladly given on application to
MESSRS BURNS PHILP & CO. LTD., 84 William Street, Melbourne or Head Office, Sydney
and Branches

RESEARCH INTO IRRIGATION PROBLEMS.

Proposals have been submitted to the Mildura Vineyards Protection Board for the Council for Scientific and Industrial Research for taking over the land and buildings of the Merbein Viticultural Research Station for the purpose of investigating various problems affecting the Murray Valley. These include—(1) Soil problems; (2) irrigation problems with matters relating to seepage and salting; (3) processing and preparation; (4) marketing, manurial and plant problems; (5) fungous and allied diseases; (6) insect pests; (7) storage and transport. New buildings were to be erected, and more money made available for research.

The Mildura Board has deferred decision till its February meeting.

MIGRATION AND DEVELOPMENT.

Horticultural Research.

Mr. H. W. Gepp, Chairman of the Commonwealth Migration and Development Commission, was tendered a farewell luncheon at Australia House, London, on January 10, prior to returning to Australia. Mr. Gepp

stated that, following on a personal visit, he was greatly impressed by the results at the horticultural research stations at East Maling and Long-Ashton, which are experimenting in the production of Apple trees whose fruit-bearing periods may be forecasted. The claim is made that it is possible to produce either a quick-bearing short-lived tree, or a slow-bearing long-lived tree, whichever is the more profitable.

Mr. Gepp states that Britain produces 13,000,000 gallons of cider annually, and the Apples for the cider are largely imported from France. Britain produces half as much cider as wine, "I foresee great possibilities in Australian trade. In this connection research workers will afford valuable assistance."

TRANSPORT OF TOMATOES.

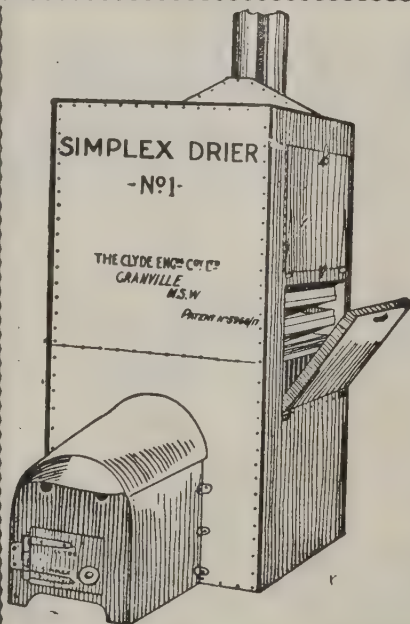
Tomato growers at Cohuna and other centres, are complaining of lack of freightage for their products on the railways, and consequent loss of markets owing to over-ripeness and depreciation of their fruit.

I wish to congratulate you on the way the "Fruit World" is got up, and think every fruitgrower should take it.—J. H. M. Reynolds, Dromedary, Tasmania.

£750 AN ACRE FROM TOMATOES.

Tomatoes that have returned him fully £750 an acre, have been grown this season by Mr. A. E. Johnson, in the Hoxton Park section of the Liverpool (Sydney) district, said the "Farmer and Settler" recently. From slightly under two acres of staked vines, he has already picked and marketed 1,180 cases of 24 lb. each, and is confident that he will pick another 1,000 cases before the season is over. The Tomatoes have realised up to 30/- a case, or 1/3 per lb. wholesale, and of late have averaged 18/- a case.

Mr. Johnson plants them in rows 3 ft. 9 in., by 2 ft. apart, and the fruit hangs in showy clusters on 6 ft. stakes, to which the vines are trained and tied. The plants were raised in seed-beds and planted out in August, the first picking being made on November 3. The fruit is firm and sound and some of the largest have weighed 1½ lb. each. It is thought that the two acres will bring in a gross return of well over £1,500. He lands his fruit in Sydney in one and half hours, and his produce is always eagerly snapped up by buyers owing to its soundness and freedom from disease.



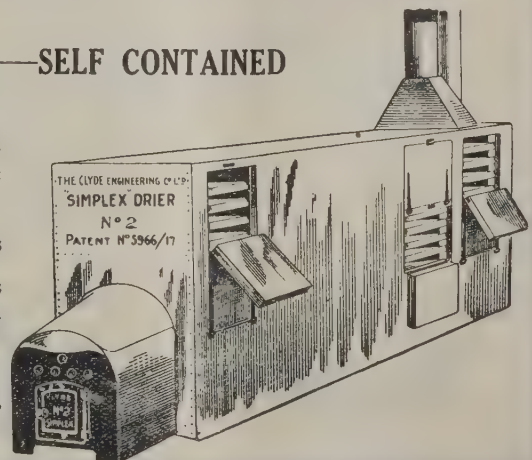
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

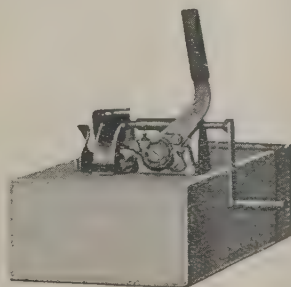
SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
... or ...
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

Are You
Interested in
Having Your
Shipments
Arrive in
Good
Condition



For Full Particulars Address

Gerrard Wire Tying Machines Co. Pty. Ltd.

FACTORY & HEAD OFFICE :

119-125 Hawke Street, West Melbourne

also

Reiby Chambers, Reiby Lane, SYDNEY, (N.S.W.)
Cr. Eagle & Charlotte Streets, BRISBANE, (Q'LAND)
Pirie Chambers, Pirie Street, ADELAIDE, (S.A.)
Southern Cross Chambers, Howard Street, PERTH, (W.A.)
Cr. Davey & Murray Street, HOBART, (TAS.)
68-70 Taranaki Street, WELLINGTON, (N.Z.)

A MOTORIST'S EPITAPH.

Here lies G. Whizz, a forgetful young cuss,
Whose end was sudden; it happened thus—

He bought a car, but was never clear
Just what to do when changing gear.
And often, by traffic compelled to wait,

He'd mix things up and accelerate.
One day when touring, quite near a cliff,
Something went wrong and in half a jiff

The car shot over—a dizzy drop.
No brakes were needed to make it stop.

No more he'll motor; but that isn't the worst—

He started for heaven, and may have reversed.

TASMANIA ANTICIPATING A GOOD SEASON.

The Hon. L. M. Shoobridge, M.L.C., of New Town, Tasmania, has kindly forwarded a clipping from a Hobart daily, which reviews the coming season, as follows:—

"Taken generally, prospects for the coming fruit season are very satisfactory, and particularly in view of the calamitous position of fruit crops generally on the mainland, Tasmanian growers appear to be in for a good time.

"The ravages of thrip have been put forward as an evidence of the necessity for the extension of the operations of the Bureau of Science and Industry, and efforts are being made to have officers of the Bureau detailed to investigate and combat the pest.

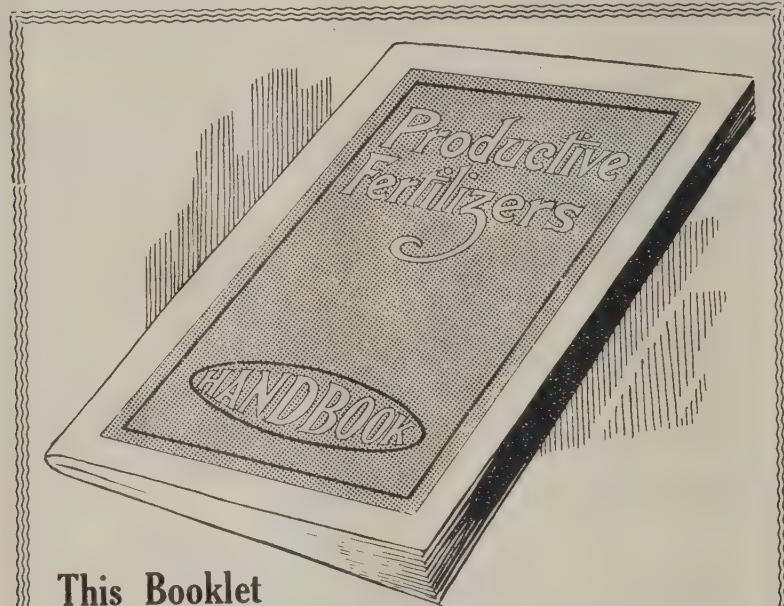
It should also serve to impress upon those Tasmanian growers who are inclined to object to the passage through Parliament of the Fruit Bill that they might well reconsider their attitude. They have suffered considerably from one cause and another for some years past, and the advantages of having expert officers of the Agricultural Department stationed in each of the fruit districts to advise growers as to the best means of combating such an outbreak should it occur in Tasmania are very apparent. If by a combination of climatic circumstances thrip became as prevalent here as on the mainland, delay in treatment to arrest their depredations would be serious, and it is only by means of expert advice and operations carried out quickly and systematically that any good could be done. As conditions are now, with a very limited staff and multiplicity of control in the hands of municipal councils and fruit boards, it goes without saying that a campaign against any pest could not so effectively be carried out."

TOMATO WILT INVESTIGATION.

The glasshouses required by the Waite Agricultural Research Institute for the observation of Tomato wilt are being erected at Urrbrae, as the result of a grant from the Commonwealth Bureau of Science and Industry. There are 3,000 bushes of Tomatoes, comprising 20 varieties, being grown at the Research Institute under open-air conditions, under the control of the Acting Director (Professor A. J. Prescott). The glasshouses will be insect-proof, so that it can be found by elimination whether or not the disease is transmitted by insects, and they will be divided into compartments, whose temperature can be regulated. Two-thirds of the bushes now growing are of the Early Dwarf Red variety, which is the usual type grown in South Australia.—"Garden and Field."

THE AUTOGRAPH HUNTER.

Mr. Bernard Shaw, replying recently to a boy who had run after him for his autograph, said: "My boy, instead of wasting your time running after other people for their autographs, why don't you use it in making your own autograph worth running after?"



This Booklet

which was compiled primarily to advertise

SULPHATE OF AMMONIA

gives a wealth of information concerning fertilisers generally, and its circulation has helped considerably in the education of the orchardist to a better-paying fertiliser practice. Many copies have been circulated to students of agriculture and horticulture throughout the Commonwealth and New Zealand, and some significance must be attached to the greatly increased sales of Sulphate of Ammonia since its publication

"Productive Fertilisers" is yours for the asking

The Australian Sulphate of Ammonia Propaganda Committee
360 Collins Street, Melbourne

GYPSUM IN THE ORCHARD.

Under the title of "New Magic in Gypsum Fertiliser," Mr. A. H. Hasell, of 17 Queen-street, Melbourne, Victoria, has issued a valuable booklet.

After dealing with the useful qualities of "Gypsum" in improved styles for all classes of agriculture, the subject of "Gypsum" in the orchard is dealt with in the following terms:—

"Orchard land, being under permanent cultivation, needs special care to keep it up to the full fertility mark. Manuring alone will not do this, for under any system of manuring, the perfect soil balance is upset and plant poisons are formed.

"In addition, most of our orchard lands, especially those overlying a dense clay, contain an excess of soluble minerals which is detrimental to most fruiting trees.

"Gypsum is the best soil corrective in the orchard. It sweetens the soil because of its lime contents. It adds sulphur, the enemy of root fungi, such as armillaria. It releases ammonia from humus. It brings potash from the stubborn clays. It makes heavy soils friable. It neutralises mineral poisons. It economises manures by regulating their action. With its aid, worn out lands may be revived and new ones kept up to the standard.

"Gypsum is suited for both dry and wet areas, and for the latter a mixture of Gypsum and Hasell's Finely Ground 'Marion' Phosphate in equal proportions gives exceptionally good results."

Copies of this booklet are obtainable free on application.

New Strawberries.—Several Strawberries of excellent quality and heavy bearing capacity, are being grown by Mr. Pritchard, of Bayswater, Victoria. The varieties include New Royal Sovereign, Sir D. Haig, Quatre Saison, Duke Seedling.

INDUSTRIAL MISSION TO THE UNITED STATES.

The personnel of the delegation of Australian employers and employees to the United States has been announced by the Acting-Prime Minister (Dr. Earle Page) as follows:—

Employers' Representatives — Mr. M. P. Campbell (Q.), Mr. H. E. Guy (Vic.), Mr. C. Ludowici (N.S.W.), Mr. A. J. McNeill (W.A.).

Employees' Representatives — Mr. Edward Grayndler, of Australian

Workers' Union, N.S.W.; Mr. A. McInnes, of Trades and Labor Council, S.A.; Mr. C. J. Munden, Australian Society of Engineers, S.A.; Mr. J. G. Valentine, Trades and Labor Council, Q.

Two Women Observers—Miss May Matthews, J.P. (N.S.W.), and Dr. Kate Mackay (Vic.)—will accompany the delegation.

The delegation will study methods of manufacture, and labor conditions generally.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof · HAMBURG · Germany

Established
1885

★
Special
Catalogues
showing
prices
issued
after
each sale



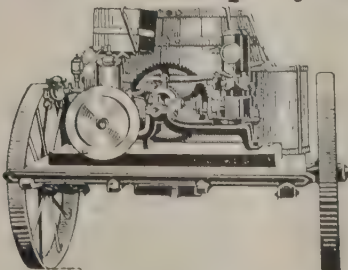
Tel. Addr.:
„Timmkorn
Hamburg“

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired.

BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Effective Spraying means Better Crops and Bigger Profits

Made in Single and Double Plunges
3 and 4 horse power

You can have the same results as thousands of other growers by using

The BAVE-U (Pioneer Australian) POWER SPRAYER

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles

Declared by a number of users to be worth its weight in gold

Write for Catalogue to the Makers:—

RUSSELL & CO.
ENGINEERS

BOX HILL, MELBOURNE
VICTORIA

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett St.
Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney

GYP SUM

Without parallel as a Soil
Corrective at a cost of
from 17/6 per ton in bulk
in truckloads, freight paid

*Splendid results obtained
by its use in citrus and
other orchards*

Also Lucerne Plots

Write for descriptive pamphlet

ARTHUR H. HASELL

17 Queen Street, Melbourne
31 Hunter Street, Sydney
Lipson Street, Port Adelaide

WOOLLY APHIS PARASITE.

Aphelinus or Fruitfly.

The following is an extract of a letter received by C. French, Jr., Government Entomologist (Vic.), from a fruitgrower at Warragul, dated January 26, 1927.

"I am glad to tell you the little Aphelinus mali is doing wonderful execution among the aphids. I have it from one end of the orchard to the other, and can be found on every Apple tree in the garden. I have not sprayed for aphids for two years now and have no need to regret giving the little wasp a good go. I don't think there was a dirtier orchard in Victoria than this when I came, now, there is a little aphid about, but the aphelinus is rapidly wiping it out. I had two trees (Yates grafts) very badly affected with black aphid (the sooty dull colored variety) the Aphe-

linus has wiped it clean out.

"At our last fruitgrowers' meeting at Drouin, I brought this matter up and told our members they could get supplies from me, but so far only one grower has accepted my offer; when they see what it has done for me they will wake up. One grower who has an extra dirty little orchard refused to let me liberate a few colonies in his orchard when I asked him to let me do so, his reason being that I could not guarantee that the 'things' as he called the Aphelinus, would not attack the Apples after they had destroyed the aphids in the same way as the fruitfly did. It is wonderful how any orchardist can be so hopelessly ignorant."

FORD CARS AND TRUCKS.

Important Price Reductions.

The Ford Motor Company of Australia Pty. Ltd. recently announced important price reductions on all car and truck models.

The standard improved touring car and single seater are now priced at £155, a reduction of £18, and, in addition, full balloon tyres are supplied at no extra cost. Corresponding reductions are listed as follows:—

Car chassis, £130; de luxe touring car and single seater, £180; half-ton light delivery runabout, £158; half-ton van, £170. In one-ton truck models the chassis has been reduced to £135, and the standard one-ton truck, complete, to £160.

It is explained by the Ford Company that these reductions are the direct result of the Ford policy of passing to the buying public every economy in manufacture under mass production methods. The original object of the establishment of the Ford organisation in Australia was to get in more direct touch with the Australian market and to produce in Australia, as far as possible, a car specially adapted to Australian requirements.

Production has steadily proceeded, and the price reductions now announced are claimed to be the result of increased efficiency in manufacturing methods and the direct outcome of the Ford policy of bringing car-ownership within the reach of practically every section of the community.



Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated

Louisville, Ky., U. S. A.

**Kills
Aphis**

"Black Leaf 40"
40% Nicotine

- LEMONS -

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vic.

CITRUS GROWERS

Some Interesting Facts To Ponder Over

THE excellent results of fumigation of Citrus Trees with Cyanogas, not only as regards the destruction of insect pests, but also in reference to the quality of the fruit, has convinced all the State Governments that it is possible for growers to produce good clean fruit.

In Victoria, South Australia and New Zealand, the importation from other States of Scale Marked Fruit is now prohibited

And it is a known fact that no exporter will buy a washed Orange.

Fumigation with Cyanogas costs very little, and involves very little physical effort: It is a day-time job. It can be carried out as easily and safely in bright sunlight, at any temperature, as at night, so long as the relative humidity does not exceed 70 per cent.

Why take the risk of finding your fruit banned by dealers, when you can ensure a good crop of best quality fruit. Fumigate at once. The Cyanogas Blower costs only 14/6, the "Dust" costs 32/6 for 25 lb. tins, or 115/- for 100 lbs.—and full, clear, easily-followed instruction sheets are available free. Two men with a dozen tents can fumigate 1,000 trees in a week.

Get at the facts

Send for free illustrated descriptive book on Cyanogassing Citrus Trees. Any of the following will send you a copy:—

New South Wales—
Buzacott & Co. Ltd.,
Sydney.

Victoria—
A. Victor Leggo &
Co., Melbourne.

South Australia—
S.A. Farmers' Co-op.
Union Ltd., Adelaide.

Queensland—
Buzacott's (Q'land.)
Ltd., Brisbane.

West Australia—
Harris Scarfe &
Sandovers Ltd., Perth.

Tasmania—
Davidson & French,
Launceston; Roberts
& Co. Ltd., Hobart.

FRUIT GROWERS!

*Avoid bruising of your fruit in transit
by using the*

"AIR FREE" CASE

Patent 9331/22

which surpasses any other case for
use in Cool Stores, or Transport
of Fruit to Local, Interstate and
Overseas Markets

Orders now being received for 1927
Export Season

Full particulars from

F. Cave & Co. Pty. Ltd.

Wholesale Fruit Merchants & Exporters

Western Market, Melbourne

Cable & Telegraphic Address: "Cavecofruit," Melbourne

Telephone: F 3930

New and Up-to-date

. Gardening Books .

*that will assist you in the
pursuit of your favorite hobby*

Just Published.

Whitcombe's

Australian Gardening Handbook

An up-to-date series of Handy Books
for the Australian Amateur Gardener

Written by and under the General
Editorship of
E. E. PEScott, F.R.H.S., F.L.S.

GARDENING IN AUSTRALIA.

Profusely Illustrated. Price 1/8 posted.

BULB GROWING IN AUSTRALIA.

Profusely Illustrated. Price 1/8 posted.

Send your order now to

**HORTICULTURAL PRESS
PTY. LTD.**

Bank House, Bank Place, 410 Collins St., Melbourne

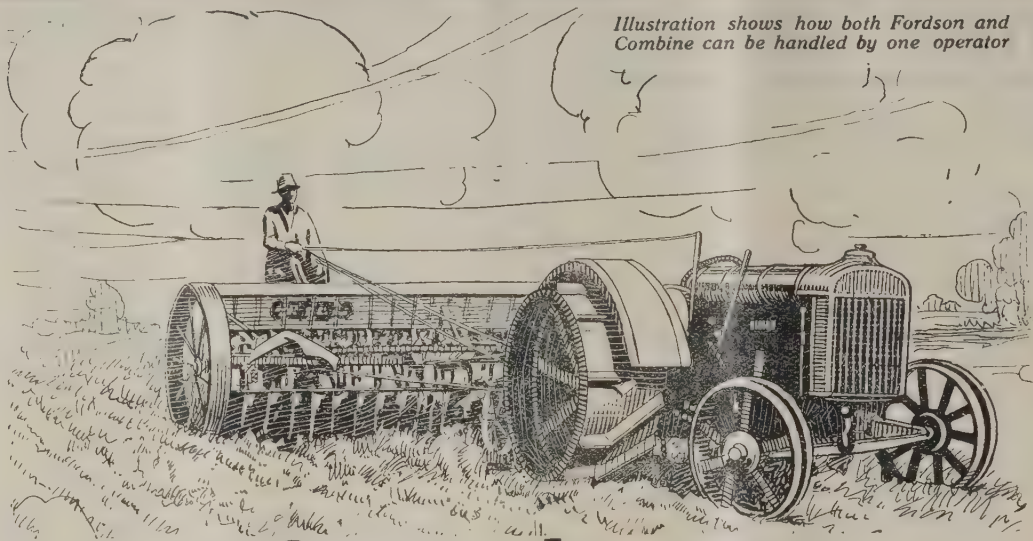


Illustration shows how both Fordson and Combine can be handled by one operator

Saves hours of the farmer's day

SEEDING days are often hurried when weather conditions are not just ideal. Use of Fordson power to pull the Combine Drill makes it possible to complete the entire work of seed bed preparation and seeding with uniform ease and efficiency.

Mr. A. W. Major, of Iraak, via Carwarp, Victoria, states his Fordson worked 33 tyne 16 row 9½ ft. combine drill and cultivator, covering 22 acres in a day, the fuel consumption averaging ⅔ gallon per acre. With every farm implement, Mr. Major proved the Fordson both speedy and economical.

Fordson speed and power actually add hours to the farmer's day at those times when he needs them most, not only in seeding, but in every other farm operation. A Fordson will work 24 hours on end without tiring, and generate its own lighting power for working at night. Your nearest Ford dealer will gladly demonstrate Ford products on your own property—no obligation to you.

Fordson

The Universal Tractor

£180

Complete with Fenders
and pulley. F.O.B. Ford
Works in this State.

Ford

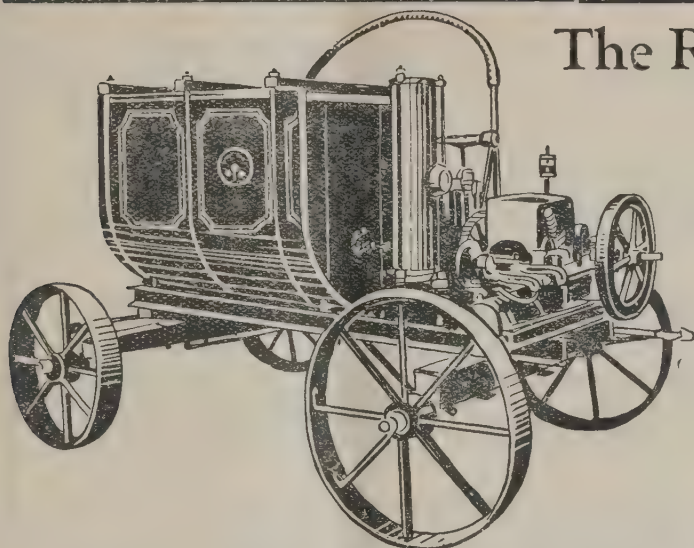
One-Ton Truck

Complete with Standard
body. F.O.B. Ford Works
in this State.

£160

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

Branches in all States



The Right and Wrong of Spraying

Time is a deciding factor, but there is something more.

The Right Spray at the Right Time is the slogan of Success.

The wrong spray is always fatal, but the right spray at the wrong time is equally so.

The McDonald Way to Spray

Send for our Illustrated Booklet, which gives full instructions as to sprays and times. Free on application.

The Famous 604 Sprayer Leads

It is designed for greater efficiency.

It will not fail you in the time of need, when stoppages mean loss. It is strong, all parts are instantly accessible—all are standard—adjustments are easy.

The wonderful Relief Valve prevents wear and trouble. No bursting hoses. No engine and pump strain. Send for complete details concerning Spraying problems. We are specialists, and ready at all times with advice.

A. H. McDONALD & CO. PTY. LTD.

570-4 BRIDGE ROAD, RICHMOND
N.S.W. Address: 25 Clarence Street, SYDNEY
S.A. Address: 134 Weymouth St., ADELAIDE
(W. McF)

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

*Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented.)*

Atomol Dusts Ltd.

Manufacturers of

**DUSTING MATERIAL USED AS INSECTICIDES & FUNGICIDES
ON PLANT LIFE.**

**DUMPHRIES PLACE
off GILLES STREET
ADELAIDE**

Growers to-day more than ever realize their success is largely measured by their ability to control the multifarious insect and fungi pests common to plant life, and advantage must be taken of the most up-to-date discoveries resulting from scientific research. Whilst very little change has taken place within recent times with regard to the materials used, the method of application is rapidly altering. We are convinced dusting will supersede spraying. This is not merely a theoretical calculation, but is based on the practical experience of growers who have had the opportunity of using the correct dusts and dusting mechanical appliances. Atomol Dusts Ltd. is an embodiment of a movement for the practical application of scientific discoveries in the realm of plant life to every day use. It has the goods that bring results.

**SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED
INTERSTATE AGENTS.**

VICTORIA:—

Irymple Packing Co.,
Irymple.

Irymple Packing Co.,
Merbein.

Sarnia Packing Co.,
Mildura.

Red Sun Packing Co.,
Red Cliffs.

Mr. G. W. Hall,
Box 1, Bunyip.

QUEENSLAND:—

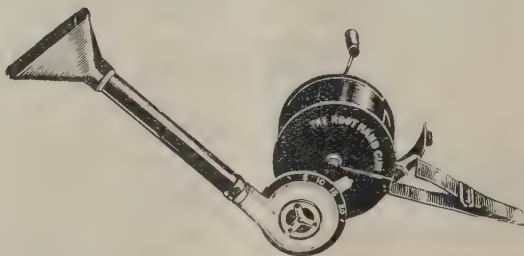
Orchard Supply Agency,
Maryland Street,
Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington Street,
Perth.

TASMANIA:—

Charles Davis Ltd.,
60 Elizabeth Street,
Hobart.



SALES DEPOTS.

No. 542-543 Covent Garden Market.
No. 100-101 Long Acre.
No. 1 Endell Street.

Cables—Spinach, London.

Codes—A.B.C., 5th Edition; Bentley's.

OFFICES:

97, 98, 100, 101 Long Acre.

FRUITGROWERS!

Consign your Fruit to

PASK, CORNISH & SMART

COVENT GARDEN

LONDON, W.C.2, England

THE PROGRESSIVE FIRM of FRUIT SALESMEN

Who have the necessary extensive clientele to assure sales at top market prices. Spacious Sale Rooms suitably situated to display fruit to very best advantage.

Reasonable advances made against Bills of Lading. Balances paid by cheques drawn on Australasian Banks.

Sales entirely by Private Treaty

Last year handled more than ONE MILLION Packages of English, Colonial and Foreign Fruits.

REPRESENTED AT

TASMANIA
AUSTRALIA

SOUTH AFRICA
NEW YORK
TENERIFFE

ST. MICHAELS
LAS PALMAS

and all Principal Fruit Growing Centres in England, France, Spain
Belgium and Holland.

Tasmania Representatives—

E. R. COTTIER & CO., Finance Company Chambers, 82 Collins Street, Hobart

Western Australia Representatives—

THOS. HAYWARD & SONS LIMITED, Bunbury, W.A.

REPRESENTATIVES REQUIRED in South Australia, Victoria and New Zealand.

The Ultimate cost is the one to watch!

Cooper "Perfect Balance" Sprayers are noted for remarkable economy

READ THIS EVIDENCE

Somersby, via Gosford
N.S.W.

"I have had my Cooper Spray Plant for some considerable time, and it has been in pretty constant use, not only spraying acres and acres of orchard, but washing down vehicles as well.

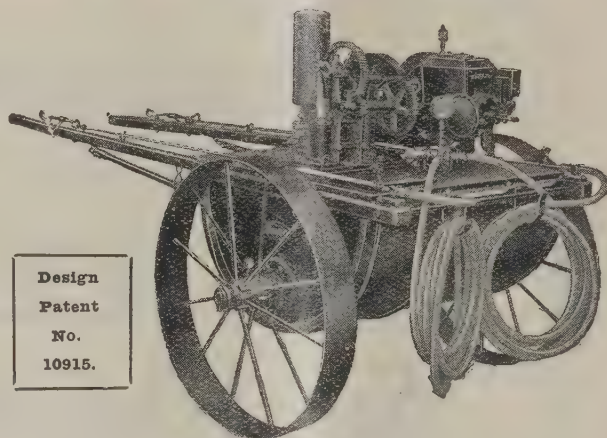
Without a doubt it is very economical—a good long day's work to the gallon of benzine being my experience with it. Any man of commonsense can keep engine and pump running well."

(Sgd.) S. G. SPENCER

11/6/26

In the long run
the Sprayer that pays best is the

Cooper



Design
Patent
No.
10915.

WRITE TO
Cooper Engineering Co. Ltd.

129-131 SUSSEX STREET, SYDNEY or
350-358 SPENCER ST., MELBOURNE
Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Ltd., HOBART

FRUIT WRAPPING PAPER

Stocks of highest-grade Californian Fruit Tissue available this month.
wrapping export fruit.

Stocks of all sizes available throughout the year.

The quality of this paper is unsurpassed for

We solicit your enquiries

CHAS. R. GABB & CO., 88-94 Franklin St., Melbourne

and 16 Chester Street, Adelaide

Phones: F 2121 and F 2122



Fruchthof-Bremen

Fruchthandel Gesellschaft Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen - - - Established 1902

AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

Tasmania: Messrs. E. R. Cottier & Co., Hobart.

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

THE "Garden Lover"

The Brightest
Horticultural Monthly

ANNUAL SUBSCRIPTION.

Commonwealth	6/-	Posted
British Poss.	8/-	"
Foreign	8/6	"

ORDER YOUR COPIES NOW

THE "GARDEN LOVER"

Bank House, Bank Place, Melbourne

GRUBBING



WITH A
"DIGGER" WINCH

A Man can uproot more Trees and Stumps in
a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

Thousands
in Use

It earns its
Famous
LOW PRICE
in a Few Days

Write for
Catalogue

Latham Dehydrators

"STAND ALONE"

The "Rolls Royce" of the Artificial Drying
World.

Particulars, Prices, and list of present
users on application

D. J. LATHAM

157 Queen Street,

Melbourne, Australia



"Bay View" Fruit Picking Bag

CAN BE USED FOR ANY CLASS OF FRUIT

Allows use of Both Hands in Picking

No Bruising of Fruit

Weight Carried on Shoulders instead of
Back of Neck

Mr. J. LANG, President of the Australian Conference of
Fruitgrowers, writes :—"After two season's use I am well
pleased with the Bags : fruit receives minimum of handling,
and is less liable to damage. They are also a great time saver."

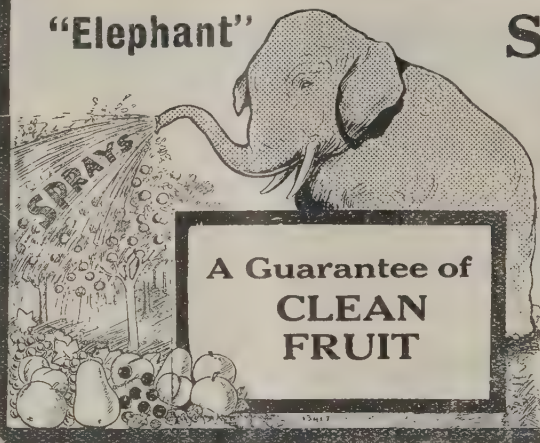
PRICE, 12/6 EACH

Postage in Victoria, One bag, 1/3, Two bags, 2/-
Postage, Interstate, One bag, 2/2, Two bags, 3/8

F. R. MELLOR, 440 Elizabeth St., MELB.

"Elephant"

STILL ON TOP!!



Orchardists : Apples will be scarce and worth money this season therefore it is to your advantage to spray whatever apples you have. You will also reduce the number of codlins for next season.

Therefore see that you get

"Elephant" Brand

ARSENATE OF LEAD (PASTE & POWDER)

To obtain the best results it is necessary to spray thoroughly and frequently with Arsenate of Lead. This takes up considerable time, and is costly. It is therefore all the more necessary to use the Best Brand obtainable. To be sure of this, see that you use **"ELEPHANT" BRAND**, which has been proved to be not only the most reliable on the Australian market for many years, but the Highest Grade of Arsenate of Lead still obtainable.

Since the Wonderfully fine **"ELEPHANT" BRAND ARSENATE OF LEAD** came on the market years ago, numerous tests carried out by the various Government Agricultural Departments invariably show that this Brand stands alone. No other brand has shown consistently the very high qualities of **"ELEPHANT" Brand**. The figures published below speak for themselves,

And are THE ONLY RESULTS PUBLISHED IN THE SOUTH AUSTRALIAN JOURNAL FOR AGRICULTURE DURING THE PAST FOUR YEARS.

In 1921 **"ELEPHANT" BRAND ARSENATE OF LEAD** had the wonderful suspension of 89.35% (Jan. Journal), whilst in 1922 the Percentage was 52.4% (Mar., 1923, Journal), and in 1923 the percentage was 82.2%. (This was the last published in Dec. Journal). In each case **"ELEPHANT"** came out easily on top. Therefore we have not yet been beaten for suspension, and it should also be noted that the percentage of killing property in our Arsenate of Lead is particularly high.

Citrus Growers: Now is the time to order Red Oil. We can assure you E.B. stands alone. Try it

Write for a copy of Government tests on Arsenate of Lead.

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of **Elephant Brand Sprays**

Manufacturing Chemists, **MADDEN GROVE, BURNLEY, MELB., Vic.**

Telephone: J 2008.

INTERSTATE AGENTS:

Agents: Seedsmen, &c.

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFORD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR APRIL, 1927

Illustrations.

Views at Mt. Waverley, Vic.	147
Packing Peaches, 4 illustrations	150-152
Pegging Out an Orchard . .	172

Contents.

Answers to Correspondents	144
Bitter Pit in Apples.	174
Canning Fruits: Packing Peaches, Export Trade, More Plantings Urged . .	150-152
Choosing an Orchard Site .	xvi.
Citrus Conference, Forthcoming	144
Citrus News: Fundamental Principles of Citrus Growing, Imports from U.S.A.	159-160
Cold Storage Research. . .	142
Dried Fruits: Australian Prunes in English Market, Publicity, Dried Fruits Control	155-156
Do Fertilisers Impoverish the Soil	xvii.
Editorial: Fresh Fruit Control Bill	143
Fertile Mt. Waverley . . .	147
Fighting Insect Pests . . .	xv.
Importation of Apples . . .	147
Letters to the Editor . . .	146
Markets: British and Australasian	168-169
Marketing Apples in Smaller Boxes	175
New South Wales: District Notes, Vintage Operations, Better Farming Train	145
New Zealand: Crop Reports, Co-ordination of Export, Pest Control	153-154
Packing Apples and Pears Personal	143
Planting Fruit Trees . . .	172
Poultry and Bee-keeping Notes	163-165
Queensland. Seasonable Work, Marketing Citrus, Storing Apples, Banana Borer, The C.O.D.	170-171
South Australia: Crop and Market Notes, Irrigation Commission's Report . .	166-167
Tasmania: Export Season, Cider Industry, Orchard Notes	157-158
Victoria: Fruit and Vegetable Zones, Meetings. Crop Reports	148-149
Victorian Fruit Shows . . .	167
Western Australia: Viticultural Industry, Fruit Crop Notes, West Swan Show	161-162
Wine Bounty Continuance .	141

News in Brief

The seven fundamental principles of citrus growing are enunciated in a valuable article by Dr. Redvers J. Blatt, the well-known South African authority, which commences in this issue.

Apple growers in the Mt. Waverley district (Vic.) have secured good crops, despite the thrip. They attribute this largely to cross-pollination and good cultivation.

Methods for the biological control of the Blackberry and other plant pests by means of insect enemies are being tested by Dr. Tillyard, of the Cawthron Institute, Nelson, N.Z., in association with the New Zealand Government and the Empire Marketing Board. Portion of Dr. Tillyard's interesting report is published elsewhere in this issue.

Directions how to make a cheap house for the ordinary storage of Apples are given in our Queensland Orchard Notes.

A severe thunder and hail storm near Wellington, New Zealand, on March 20, damaged the fruit crops in the Hubb Valley.

Following hailstorm injury in certain districts in Tasmania, growers throughout the State are considering the possibility of a comprehensive insurance scheme against losses from this cause.

Valuable notes on cover-crops for orchards (or "green manuring") are given in our Tasmanian section.

A conference of the Ministers of Agriculture in the various States is to be held in Adelaide at the latter end of May, when various items of interest to fruitgrowers will be discussed.

A bonus for codlin moth grubs! A correspondent from Blackheath, New South Wales, states that growers there have adopted the practice of paying their hands a small bonus for every codlin moth grub caught, which has proved most effective in reducing the pest.

Members of the Migration and Development Commission, under the Chairmanship of Mr. H. W. Gepp, visited Mildura and surrounding districts early in March, with a view to enquiring into the position of the dried fruits industry.

Tasmania expects to export overseas a million bushels of Apples this season.

The Annual Conference of Victorian fruitgrowers will be held at Upper Beaconsfield, on May 10, 11 and 12, when many items of interest will be discussed.

The Victorian Central Citrus Association's Conference, will be held in Melbourne on May 3.

THE WINE INDUSTRY.

Reduced Bounty for Further Three Years.

The Federal Parliament has agreed to extend the bounty on exported wine for three years from September 1 next, at a reduced rate. The present bounty of 4/- per gallon will expire at the end of August; thereafter the rate will be 1/9 per gallon. Instead of being restricted to wines made from Doradillo Grapes, the bounty is extended to all wines.

In speaking to the Bill, Mr. Pratten (Minister for Trade and Customs) stated that during the two years and five months of the operation of the bounty, 2,391,060 gallons of fortified wine had been exported. The British Government had given a preference of 2/- per gallon to Australian wine. It was essential that the industry should organise, and the extension of the bounty was on the distinct understanding that such organisation would take place.

TOMATO GRADING REGULATIONS.

A meeting of Tomato growers was held at Bendigo on March 18, when the Tomato grading regulations were discussed, and the growers unanimously agreed to adopt last year's regulations.

Mr. J. M. Ward, Superintendent of Horticulture, who was present, expressed his satisfaction at this decision, and congratulated the Tomato growers on the improvement in their methods of putting up their fruit. Two years ago the conditions were very bad. During the last 12 months great improvement had been made, but there was still room for more improvement.

Growers have been helped considerably by the Department, which has sent three packing instructors into the district for several weeks during the season.

FRUIT EXPORT CONTROL.

We regret that owing to pressure on space, we are unable to include in this issue a long letter on this subject received from Mr. H. Robinson, Frankford, Tasmania.

(Illustrations on pp. 150-152 by courtesy "Journal of Agriculture," Victoria.)

Remember !

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the **BEST**, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS." postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place off 410 Collins Street, Melbourne

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart.
Western Australia: D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane.
New Zealand: Gordon & Gotch Ltd., Wellington, Dunedin and Auckland.
Great Britain: Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

COLD STORAGE RESEARCH.

Dr. Kidd in Western Australia.

Dr. Kidd, of the British Food Investigation Board, who, together with Mrs. Kidd (a trained mycologist), is visiting Australia at the request of the Council for Scientific and Industrial Research, to advise in regard to investigations in the cool storage of fruit and meat, arrived at Albany on March 19. Dr. Young, Associate Professor of Bio-chemistry in the Melbourne University, is also with the party.

Arrangements were made for the visitors to be met by Messrs. G. W. Wickens (Superintendent of Horticulture), and W. M. Carne, F.L.S. Economic Botanist and Plant Pathologist) of the Department of Agriculture, and conducted to Mount Barker to study orchard conditions and methods of picking and packing fruit, etc., arriving in Perth about March 24. Arrangements were also made for an inspection of the vineyards on the Upper Swan, and the cold storage facilities at Fremantle and Perth, the party leaving for Melbourne on March 26 in order to meet the members of the Council, who will then be in session in Melbourne.

Editorial Chats



Fresh Fruit Export Control

Bill Rushed Through Parliament.

Power Will Rest With the Government, Not the Board.

No "Safety Clause" as in N.Z. Act.

THE last act of the Federal Ministry in Melbourne was to rush through the Fruit Export Control Bill, under the title of "The Fresh Fruits Overseas Marketing Act 1927." This was evidently pandering to the opposition to the word "control"; but as the body of the Bill distinctly states, "so as to effectively control—," it is quite evident that the change is in the name of the Bill only.

The Fresh Fruit Export Control Bill will cause disappointment to many who were inclined to favor the "Control" system.

The heart of the Bill is the power to prohibit export except under license. Under the Bill this power to issue or cancel licenses is retained by the Government, the proposed Board having only the power to "recommend."

This is why so many take exception to what has become known as "Government Control," which even advocates of the Bill do not desire.

The actual wording of Clause 14 in the Bill is as follows:—

For the purpose of enabling the Board effectively to control the export and the sale and distribution after export of Australian fresh fruits, the Governor-General may by proclamation prohibit the export from the Commonwealth of any fresh fruits except in accordance with a license issued by the Minister, subject to such conditions and restrictions as are prescribed after recommendation to the Minister by the Board.

Clause 15 gives power to the Minister to cancel any license.

The Australian Fresh Fruit Export Control Bill differs vitally from the New Zealand Act.

The N.Z. Act contains a "safety clause" giving any dissenting district an opportunity of withdrawing or being not included under the Act.

There is no provision under the

Australian Bill for any dissenting State to remain free of the Control.

Victoria, the largest Apple-producing State in the Commonwealth, has asked to be kept free from "Control," and growers are asking why they should be forced to take up an attitude they do not desire.

FRESH FRUITS OVERSEAS MARKETING ACT, 1927.

Full details of the provisions of the Bill to control fruit export, passed by the Federal Parliament, will be published in our next issue.

PERSONAL.

Mr. D. D. Penny, Field Entomologist of the California Spray Chemical Co., Watsonville, Cal., U.S.A., is now in Australia studying local conditions in the several States on behalf of his firm. Mr. Penny is noting the methods in vogue here for fighting insect fungus pests, and it is expected he will advise, among other things, as to more effective methods for controlling Codlin Moth.

Mr. W. Cattanach, Chairman of the Victorian State Rivers and Water Supply Commission, left Sydney by the "Sierra" on March 19, to represent the Federal and Victorian Governments at the Pan-Pacific Conference on Education, Irrigation and Recreation at Honolulu, thereafter proceeding to America and Europe, to investigate potential markets for Australian produce.

Mr. S. H. Smith, Director of Education in N.S.W. is also attending the Conference on behalf of the Commonwealth.

Mr. Albert H. Benson, Director of Fruit Culture, Queensland, is retiring from the service at the end of March.

Mr. V. R. Lawrey has recently been appointed Citrus Orchard Supervisor under the Victorian Department of Agriculture, Mr. Lawrey is at present operating in the Doncaster district, where Citrus fumigation is being carried out so successfully.

Mr. H. D. Howe, Chairman of the Australian Dried Fruits Board, will leave for London on April 21. He has accepted the invitation of the Empire Fruit Marketing Board to visit England, where he will conduct marketing investigations in connection with the dried fruits industry. He will be absent from Australia for about six months.

Before sailing for U.S.A. and England, Mr. R. E. Boardman, Editor of the "Fruit World," was entertained at dinner by the directors and staff of the Fruit World Pty. Ltd. and Horticultural Press Pty. Ltd., when he was presented with a useful portable writing case.

Mr. A. E. Blunt, of Messrs. Lincoln and Blunt, manufacturers of "Qua-Sul" and Vitamite, passed through Melbourne during March. Mr. Blunt reports excellent sales of his products in Tasmania, South Australia, Western Australia, and New South Wales. He has completed arrangements for Messrs. Newell and Co., 189 King-street, Melbourne, to take over the Victorian representation. Some excellent results have been obtained from the use of "Qua-Sul" and "Vitamite," and growers not already in touch with these lines should investigate them thoroughly.

GARDEN WEEK.

Melbourne, April 5th to 9th.

ARRANGEMENTS are now nearing completion for the holding of Garden Week at Wirth's New Olympia, Prince's Bridge, Melbourne, from April 5th to 9th next. Many applications for space have been received, and allotment is now being made. A programme of lectures has been drawn up, and the various talks will be broadcast by 3LO, Melbourne.

The Autumn Shows of the National Rose Society, and the Carnation, Dahlia, Sweet Pea and Gladiolus Society are being held in conjunction with Garden Week, which will be opened by the Lord Mayor of Melbourne (Ald. S. J. Morell) at 3 p.m. on Tuesday, April 5th.

Everything points to the coming event being a record in every way.

ANNUAL CITRUS CONFERENCE.

THE Annual Conference of the Victorian Central Citrus Association, to which Interstate Delegates have been invited, is to be opened by the Hon. T. Paterson, Minister for Markets and Migration, in Melbourne, on May 3, at 2.30 p.m. After the Conference the Annual Meeting of the Victorian Central Citrus Association Pty. Ltd., will be held. In accordance with the Articles of Association, one of the Directors, Mr. Rupert J. Watson, will retire and be eligible for re-election.

The business sheet for the Interstate Conference has not yet been finally fixed, and districts that desire the inclusion of items, are requested to forward them on the earliest possible date to the Secretary, B. S. B. Cook, Collins House, 360 Collins-street, Melbourne.

Among other matters the following subjects will be considered:—

Federal Citrus Exchange.—Enlarge-ment of the functions of the Federal Citrus Council, as recommended by Interstate Conference in January; formation of Central Citrus Exchange controlled by V.C.C.A., on lines similar to Californian Exchanges.

All-Australian Citrus Convention.—Question of convening.

Export.—That the Federal guarantee of 6/- is inadequate, and further efforts be made to have the original guarantee restored, covering all out of pocket expenses.

Levy on Lemons.—To charge 2d. instead of 1d.

Levy.—Victorian Railways and collection of levy; that this Association regrets that Compulsory Levy Bill was not presented to Parliament and trusts that whatever Government comes into power the Bill will be introduced at the earliest possible moment.

Market Representative.—Condition of Melbourne market to be more fully brought before districts by the Market Representative.

Fumigation Plants.—That State Governments be urged to expedite the provision of more fumigation plants and experts to supervise the work.

Export Research.—Information as to results, if any, of experiments by Institute of Scientific and Industrial Research re overseas shipments of Citrus.

Citrus Fruit Drinks.—That other States be asked to place Citrus fruit drinks on sale at Railway stations as done by the Victorian Railways.

Annual Conference.—That Annual Conferences be held in districts where Associations exist instead of in Melbourne.

Directors.—Method of appointing Appointment of additional Agents.

VICTORIAN FRUIT COUNCIL.

Annual Conference, Upper Beaconsfield, May 10, 11 and 12.

At a meeting of the Victorian Fruit Council, held on March 15 (Mr. J. H. Lang presiding), it was decided to accept the invitation of the Upper Beaconsfield branch to hold the Annual Conference there on May 10, 11, and 12. A comprehensive agenda is being arranged, including consideration of the problems of cool storage of Pears, and a number of educational papers will be read on the latest cultural methods and other aspects of fruitgrowing.

Representatives will be invited from all Victorian fruitgrowing centres, and it is hoped the Conference will be opened by the Prime Minister.

A reply was received from the Federal Director of Quarantine with regard to the importation of Apples from America, Canada and New Zealand, stating that there was no likelihood of the prohibition being relaxed in the case of America and Canada, owing to the presence of fireblight in those countries; but relaxation in the case of New Zealand, under special conditions, was being considered.

Various speakers expressed the hope that the restrictions would not be removed.

In view of his departure to Honolulu, U.S.A., and England, the resignation of the Secretary (Mr. R. E. Boardman) was accepted, and Mr. W. H. Carne was appointed to act until the Annual Conference.

CANNERY ENGINE EXPLODES.

Owing to the explosion of the compressor of a crude oil engine, at the Ardmona Cannery, on March 25, a forewoman in the canning department, Mrs. J. Davis, was severely hurt, and is in hospital suffering from shock, cuts and abrasions.

At the time the explosion occurred, the staff had fortunately not begun work, or the results would have been much worse, as many women work near the engine.

ANSWERS TO CORRESPONDENTS.

Jam Oranges and Granny Smith Apples for Shepparton.

Mr. G. A. Peart, Shepparton, writes:—(1) Which jam Orange is most suitable from factory and growers' viewpoint—Poormans (True) or Seville? (2) Will Granny Smith Apple do well under irrigation, and is it a good grower and bearer?

Answer (by J. M. Ward, Superintendent of Horticulture).—(1) The tough, sour Seville is used for the manufacture of what is known as Dundee Marmalade; Poorman and Flat Seville also for marmalade.

(2) The Apple Granny Smith was raised near Sydney, N.S.W., and from the writer's experience, this variety appears to adapt itself to almost any climate. It does well in Southern Tasmania, and Stanthorpe, Queensland, two totally different climates. It can be recommended for the irrigation areas in the Goulburn Valley.

CROSS FERTILISING GRANNY SMITH APPLES.

H.O.H., Belair, South Australia, writes:—I have a large patch of Cleopatra Apples trees, 17 rows wide and 45 trees long. The centre trees do not bear well. If I graft the 6th and 12th rows with Granny Smith, will they bloom together and fertilise the Cleos?

Answer (by Geo. Quinn, Horticultural Instructor, S.A.).—I find, on referring to our records kept at the Blackwood Experiment Orchard, that these two varieties have bloomed almost simultaneously at that institution, which is only a little over a mile distant from Belair, and at about the same altitude. It would appear, therefore, that if your correspondent grafted over a number of Cleopatra trees with Granny Smith, it is possible that cross pollination would be affected, but I do not think equally good results would be attained by grafting over complete rows through the plot, as would be secured if the grafted trees could be more generally distributed, at any rate, in every second row.

I am quite aware that this will increase the difficulty of spraying and harvesting to some extent, but after all said and done, that should not be an insuperable difficulty.

I may mention further, that at Blackwood, Jonathan, Dunn's, Rokewood, Esopus Spitzenberg, Dume-lows, Buncombe, and Reinette du Canada, are also well known varieties which bloom with the Granny Smith and the Cleopatra.



New South Wales

The M.I.A. :: District Notes :: Vintage Operations
Better Farming Train

MURRUMBIDGEE IRRIGATION AREAS.

Electrical Undertaking.

The Minister for Agriculture (who is also Chairman of the Water Conservation and Irrigation Commission) states that the use of electricity on the Murrumbidgee Irrigation Areas is extending rapidly, indicating that residents on those Areas, both farmers and business people, have become keenly alive to the advantages afforded by the Commission's Electrical Undertaking, which has played no small part in bringing some of the amenities of the city life within reach of the man on the land.

Up to December 31, 1926, over 2,000 customers have been connected with the electric supply, including business premises, private residences and farm buildings. The charges made by the Commission compare favorably with those operating in other parts of the State outside the metropolis.

THE BLACKHEATH DISTRICTS.

The following is a brief report of districts I visit, and may be of use to you.

Hartley Vale and Bowenfels.—Production—Apples.

This area has suffered severely this season with the general complaint of a poor setting. Growers attribute most of the blame to the thrip, but a few consider that the seasonal changes had quite a big say in the matter. Growers generally are quite cheerful over the matter, and are concentrating on getting sufficient fruit of show standard to enable the district to compete in the district pyramid at the R.A. Show, at Sydney at Easter. The quantity is available, but inclined to be oversized. Growers are in hopes that codlin moth will not be so troublesome next season, as they have been to some pains to prevent it breeding over this season.

Rydal and Tarana.—Production—Apples, Pears, Peaches.

There is approximately a half crop of Apples, full crop of Pears, and bumper crop of Peaches in this area. The quality right through is "Special," with the exception of a small quantity of Peaches which were damaged to a slight extent by the Rutherglen Bug. Sulphur smudges prevented ex-

tensive damage from this pest. Codlin moth is a rarity this season owing to the energetic way in which the growers dealt with it. A thorough programme of spraying, hand picking and bandaging has proved very effective. A few growers have adopted the idea of paying their hands a small bonus for every moth grub which they catch, and the results have been most satisfactory.

The quality of the fruit crop is exceptionally high. Black spot is practically unknown.

Yetholme.—Production—Apples and Pears.

This district has suffered in general with others this season; a light setting has resulted in a 40 per cent. crop. Here again, the quality generally is good. Black spot sprays have resulted in a small proportion of the fruit showing slight russet. Here also, the codlin moth fight has been waged successfully, and it is hoped that if the crops are normal next season, there will be little moth to trouble it.

Many growers, realising that they could not depend on the fruit crop, turned their attention to side crops, such as Peas and Beans. While the early crop of Peas gave a very light yield, prices were abnormally high, and up to 30/- per bushel were obtained. The later crop yielded bountifully, some areas picking up to and over 200 bushels to the acre. This has enabled many growers to weather the financial storm which the failure in fruit brought on.

Capertee.—Production—Apples, Pears and Peaches.

The Apple crop in this area has been almost a blank, but most growers have had a good crop of Pears, mostly of the Williams variety. As prices have been satisfactory, and the quality generally high, growers are enabled to carry on without assistance until the next season. This applies to those growers who have only taken over their orchards during recent years, as the older established men have no need to worry about finance for one season.

Here again, the fight against codlin moth is being carried on, and evidence is to show that without constant spraying, the infection would have been heavy. There is every reason to believe that there should be a considerable reduction of

this pest for the next season.

Peaches have been damaged to a fairly great extent by the Rutherglen bug, which appeared in great numbers during late spring and early summer.

The woolly aphis parasite, *Apehlinus mali*, is working splendidly in this district, and growers have great hopes for its success in dominating a pest which has proved itself a considerable nuisance in the past.

Mudgee.—Production—Grapes (wine and table), Stone Fruits.

The vineyards in this district are looking splendid. The crop promises to be a record and everything points to a successful season.

The stone fruits had a bad time early in the season, and the setting was poor. On top of this the Rutherglen bug damaged all except the very early stuff, and what was left by this pest suffered at the hands of the flying foxes. As the area is small, this loss caused no worry.—E. C. Leviatt, Blackheath.

N.S.W. VINTAGE OPERATIONS.

Vintage operations in the Hunter district are nearing completion. Unfortunately, some growers experienced the effects of another hailstorm, which occurred in the midst of their picking, thus resulting in further losses. The quantity of Grapes harvested in this district will be small, but the quality of the wines should be very fair.

A little more rain in the Corowa district would have been beneficial, as conditions are somewhat dry, and a shower or two would increase the sugar strengths. However, the crops generally in the southern areas are good, and with the increased tonnage on the Murrumbidgee areas there should be a record production in this State.—N.S.W. Department of Agriculture, March.

BETTER FARMING TRAIN IN N.S.W.

The New South Wales Department of Agriculture has organised a Better Farming Train, on similar lines to that which does such valuable work in Victoria. The various sections will demonstrate the latest developments in all phases of agriculture, stock raising, veterinary science, sheep and wool, fruit-growing, poultry farming, plant diseases, insect life, pasture, improvement, and other subjects of vital interest to the man on the land.

On its first tour the train will visit Harden, Cootamundra, Junee, Wagga, The Rock, Culcairn, Albury, Gundagai, and Tumut.

(The tour started on March 14.)

Letters to the Editor

FRESH FRUIT CONTROL BILL.

(To the Editor.)

Sir,—The method adopted to force the Fresh Fruit Control Bill through the Federal House during the last few minutes of the final session in Melbourne, will never be forgotten or forgiven by the genuine export fruit growers of Victoria at least, and possibly not by the rest of Australia.

No support in opposing this unwanted and unasked for measure could be looked for from the Labor Party, who know that the Control system is one of the main planks of the Labor platform, and they smile placidly to see the supposed Conservative Members of the House, solidly laying and cementing the foundations for the socialisation of production and distribution. There are many features of this business which savor of Soviet methods—the ruthless passing of this Act, without ample opportunity being afforded to have a full discussion on the cause and effect of each clause, is only on a par with much other legislation recently put through the House and instances the futility of the party system of legislation, when principles are freely sunk to pander to party leaders.

The opinion is freely expressed that all these Boards of Control are unconstitutional, and it is high time some section of the industries concerned tested their validity.

Under this Bill, provision is made for the compulsion of the majority to submit to a minority on a production basis. Thus, 10 growers who produce and export 5,000 cases each year, totalling 50,000 cases per annum, can be compelled by 11 men, who grow and ship only 100 cases per annum, totalling 1,100 cases, to submit to their dictation; and this principle is to apply, not only to the voting "yes" or "no" for Control, but also for the election of men to constitute the Board. This can actually mean that as an industry, the minority can rule and doubtless this feature has not been overlooked by the promoters.

It is unnecessary for me to point to the disastrous results in New Zealand, caused by Control in the dairying industry. They are becoming apparent in our own country in relation to those industries already under Control.

Further, the draft of the Bill submitted to a few growers, contained, in the form of a direction, "That nothing in this Act shall imply a discontinuance of F.O.B. and C.I.F. selling." But in the Bill, as now passed,

this pious direction is carefully dropped. If a simple majority of growers vote for this Control, it is a foregone conclusion that under the Act the F.O.B. trade will suffer, and it is equally certain that a rapid decline in export generally will eventually drop.

Can you ascertain on behalf of the growers, who is to be responsible for assembling the rolls for voting, and are the usual rules of election to apply, such as scrutiny, etc.? We desire no further Sovietism.—Yours, etc.,

EXPORT GROWER.

Melbourne, 26/3/27.

FRESH FRUIT CONTROL.

(To the Editor.)

Dear Sir,—The report of a meeting of the Apple and Pear Growers' Association in the "Age" of the 16th inst., at which Mr. H. H. Smith, M.L.A., so forcibly expressed himself, was read with much interest by growers here.

In warning growers of the dire results that would surely follow Control, Mr. Smith backs up the arguments of some who have been fighting this issue on every point.

In the face of such a condemnatory reception as this scheme has received, it should have died in its infancy.

Mr. Thomas's complaint re the proposed orchard tax, is a trifle misleading, as it is indeed far from likely that the Government would deny us the pleasure of the tax, if growers generally wished for it.

We, as Australians, are always proudly boasting of freedom. Why not cling to such principles instead of seeking serfdom?—Yours faithfully,
H. H. HUGHES.

Quantong, 19/3/27.

BRISBANE AGENT FOR VICTORIAN FRUIT.

(To the Editor.)

Sir,—I note from March issue, that the Queensland C.O.D. sought to displace Mr. D. G. Wills as receiver of Victorian fruits in Brisbane.

Apart from the questionable action in thus undermining a proved and efficient representative, the Victorians will be extremely foolish if they sack a successful man and replace him with an organisation that has not scored one solitary trading success during its existence—and with unlimited capital at its disposal.

The C.O.D. made a heavy loss (£139) during its three-months efforts to run four fruit-barrows!

The C.O.D. sold Bananas realising £82,341/6/6 during its first year, and at 5 per cent. commission, yet it only made a "profit" of £659. That is, after drawing £5,436/7/4 from growers' pockets in the shape of commission, it cost £4,776/17/5 in "expenses"—and this is the concern that seeks to represent the Victorian growers in Brisbane.—Yours, etc.,

MUNRO HULL.

Eumundi, Q., 11/3/27.

COVER CROPS FOR ORCHARDS.

King Island Melilot.

Dear Sir,—I read with interest in your issue of March 1, on page 134, the letter from Mr. A. Spencer Watts regarding cover-crops for Citrus and other orchards, and I have never been able to understand why the orchardists here have not utilised *Melilotus indica* to a much larger extent than has been the case.

The seed is cheap, the plant is grown easily, it is a legume, its green manuring value is undoubted, and with the present high price for some of the legumes more generally used, such as Tick Beans and Dun Peas, it should surely be to the advantage of all fruitgrowers to at least try out *Melilotus indica* on some portion of their property. In California this plant is now so popular that it is the one principally used for cover-crops and green manure in the orchards there, a fact which, when the progressiveness of that country is taken into consideration should commend the use of the plant to your readers.

Melilotus indica, or as it is sometimes known, *parviflora*, is synonymous with the King Island Melilot, which has given such excellent results in reclaiming poor, sandy country in and around Rye, on Port Phillip Bay, within 50 miles of Melbourne. What the plant has done in connection with King Island and Flinders Island in Bass Strait is too well known for further reference.—Yours faithfully,

LESLIE H. BRUNNING

(F. H. Brunning Pty. Ltd.).

57 Elizabeth-st., Melbourne, 14/3/27.



FERTILE MT. WAVERLEY.

Smiling Orchards: Will They Become Suburban Allotments? Cultivation and Cross-Pollination Defeat the Thrip.

WITHIN TEN MILES of the City of Melbourne there is a belt of fertile orchard country, yielding this season full crops of Apples and Pears, despite the attack of thrips. This is the Mt. Waverley district, charmingly situated, and now that a railway is to be constructed through the locality, cutting some orchards right in half—it would seem that commercial fruitgrowing will gradually recede in favour of suburban allotments.

In the meantime, it is pleasing to place on record the success of the local fruitgrowers, who, by wise selection of varieties for planting for crops and for cross-fertilisation, and

reticulation from the Yan Yean system is available when needed.

The orchard was sprayed once with Bordeaux, and twice with lime-sulphur to check fungoid diseases. Eight sprays of arsenate of lead were applied at intervals of from 10 to 14 days to combat the codlin moth.

Mr. Coleman believes that less damage was caused by the thrip than was previously supposed. He believes the blossoms were damaged by very heavy frosts about the middle of October; he also believes that in other districts the drought of the previous season weakened the buds so that the thrip infestation found weak blossoms on which to operate.

In Mr. Will Muir's thriving 40-acre orchard near by, Gravenstein Apples are specialised. These Gravensteins are a wonderfully high-class product, and brought from 16/- to 20/- a case. Other varieties

an average of 8/- per case. Dressings of stable manure and bonedust are applied. The new railway goes right through this and other properties near by.

Other orchards in the vicinity include those of Messrs. Lechte, D. Peck, W. Dunscombe, Mullens, and others. There are approximately 300 acres in orchard in this area, at the centre of which there is the Mt. Waverley Cool Stores, having a capacity of 30,000 cases. The orchardists hereabouts are to be commended on their capable efforts. As regards the younger folk from these homes, some are continuing in orchard work, and others taking their places in the world of arts, engineering, literature and science. All credit to the pioneers, who transformed the virgin bush into the present smiling orchard. They fully deserve the success which they have labored so earnestly to win.



VIEWS AT MT. WAVERLEY, VICTORIA.

From left to right: Mr. H. Coleman's Home; Gravensteins being packed for Railway Department by Mr. W. Muir; Apple Trees in Pepperell Bros.' orchard.

by the erection of a cool store, have won prosperity.

Mr. H. Coleman, a successful grower, and an appreciated judge at Shows, has a 60 acre orchard of Pears and Apples, about half of each. In Pears the main varieties are Williams, B. Bosc, and Packham's; the heaviest planting is with the Williams' variety, the crop being for canning purposes for the factories of the Australasian Jam Co. Pty. Ltd., South Yarra. Mr. Coleman states that he has sold his whole crop to the factory for the past 25 years, and the relations have been most harmonious.

The Williams variety is interplanted with Beurre Bosc. This season, despite the thrip, cross-fertilisation was complete, there being heavy crops.

Cultivation and Spraying.

In Apples, Jonathan, Stewart's, Granny Smith, and other varieties are growing. Mr. Coleman pays careful attention to cultivating the ground. Watering is usually unnecessary, but

grown include Jonathan, Rome Beauty, Five Crown, etc.

Cross Fertilization.

On Messrs Pepperell Bros.' 40-acre orchard, Jonathan, Rome Beauty, Yates, Granny Smith and other varieties are grown. It was noted that where Jonathans were in the proximity of Rome Beauty, the cross-fertilisation this season had been complete, and heavy crops had resulted, but where the Jonathans were in more solid blocks the fruit crops were conspicuously less. Last season 1,000 cases of Rome Beauties were picked from 123 trees.

In the spring of 1926 the blossoming season was abnormal. Usually the eight rows of Jonathan, with a single row of Yates is sufficient to give uniformly good crops. But during the present season it was found that where the pollinating varieties were freely interspersed (every third row), the crops were satisfactory. The three-acre section devoted to Plums produced well this year, and realised

IMPORTATION OF APPLES.

Prohibition Against U.S.A. and Canada Because of Fire Blight.

Apples From New Zealand May be Allowed, Subject to Special Conditions.

Owing to the presence of fire blight or Pear blight (*Bacillus amylovorus*) in U.S.A. and Canada, the importation of Apples from those countries into Australia is prohibited, and it is not likely that there will be any relaxation of the restriction for the present.

Representations that the importation of Apples from New Zealand may be allowed, subject to special conditions, are now under consideration, according to a statement made recently by Dr. Cumpston, Commonwealth Director-General of Health, to the Victorian Apple and Pear Growers' Association.

Victoria

Fruit and Vegetable Zones :: Meetings :: Crop Report

FRUIT CROP REPORT.

To End of February, 1927.

Superintendent of Horticulture
Reports.

Deciduous Fruit.

THE CONTINUED dry weather and high winds have been responsible for thinning the already light crop of Apples. In the case of Pears the damage was not so great, and in some districts a good average crop is being harvested. However, even these windfalls brought satisfactory prices. Despite the unfavorable season, the bulk of the fruit crop was of good quality and very free from disease. The exceptionally high prices ruling for all classes of fruit have compensated growers to a certain extent for the light crop. Apples have sold up to 20/- per bushel and Plums to 9/- per bushel. All other fruits were proportionately high. Some varieties of Prunes have yielded well, notably the Sugar, Splendor and d'Agen varieties.

The damage done by the Rutherglen bug is difficult to estimate, but the chief canning Peach (Pullar's Cling) will not be far short of the average yield of good quality fruit. Peaches rejected by the cannery for bug marks are being disposed of on the fresh fruit market, at remunerative prices.

The damage done by thrips is perhaps a blessing in disguise. Had the trees set the heavy crop promised early in the season they would undoubtedly have suffered a serious setback owing to the abnormally dry season. As it is, trees that have been reasonably well cared for are looking healthy, and the crop they are carrying is of good quality.

Owing to high prices, and short supplies, very few Apples are being cool stored. To keep the stores going, Apples are being imported from Tasmania for cool storage.

Most of the stone fruit has been harvested, and has realised very high prices. The last of the canning Peaches will be harvested within the next fortnight.

Viticulture.

February was hot and dry. This is, of course, quite seasonable, and the vineyards throughout the State are looking really well—a little sunburn here and there where foliage is too scanty, but taken all round, the vint-

age promises to be a bountiful one.

Until Christmas the season seemed to be unusually early, and an early vintage was expected. This has not been maintained during the past few weeks, despite warm dry conditions, and as regards earliness, this season is much on a par with last.

In the irrigation areas Sultanias are bearing a heavy crop—not quite so heavy as 1914, but the area in bearing being larger, the 1927 pack should constitute a record.

Currants bear medium crops, whilst those of Gordos, Waltham Cross and Doradillos are quite good.

By February 20, Currant drying was in full swing—picking of this sort often errs on the early side, color and weight of the finished product suffering thereby. The coming heavy Sultana campaign makes growers anxious to have their drying racks cleared of Currants as soon as possible.

Sultana picking has already started; in some cases seemingly a little too soon—"double picking" is particularly desirable early in the season, the ripest bunches being taken first.

Last year's experience is fresh in the minds of growers; they are naturally desirous of processing the bulk of their Sultanias before the weather breaks.

At Rutherglen and in other non-irrigated wine-growing districts, the vines, though very healthy and bearing heavy crops, are beginning to feel the strain of the hot dry spell, especially on hillside vineyards. An inch or so of rain would be very welcome.

Throughout the State the vineyards are remarkably healthy—fungous diseases are conspicuous by their absence; erinose is reported from some irrigated districts, but damage is only slight. It is curious that irrigation seems to favor this mite—at Rutherglen, where it has been widespread in the vineyards since 1910, little or no notice is taken of it. A dry spring usually checks it; last season it was little in evidence, much less so than this year.

Table Grapes are being sold freely in Melbourne shops and barrows. It is regrettable that so many are on the unripe side. Some growers fail to realise that Grapes ripen very little after removal from the vine, and that by marketing before maturity they prejudice consumers against this most wholesome fruit. The

maturity standards are to be enforced, and prosecutions are under consideration.

Citrus.

Prices for Valencia late Oranges and Lemons have been well maintained, and at present range from 30/- to 35/- per case, and 20/- to 25/- per case, respectively. The promise of the crop for the ensuing season is about equal to that of last season. Valencia Late and Common Oranges are good, and Navel types, medium. Mandarins are showing well. The Lemon crop is fair in the north, and in the south there has been a severe drop in young fruit during the months of December and January.

FRUIT AND VEGETABLE ZONES.

Advocates of a zone around Melbourne, which should be devoted to providing the metropolis with vegetables and fruit in a fresh state, free from long distance travelling and bruising by being knocked about in transit, can point with justification to the nearby Mulgrave and Oakleigh districts.

At Wheeler's Hill, there is on the one side of Fern Tree Gully-road, one of the largest market gardens in Australia, and on the other side of the road one of the largest orchards.

A magnificent view of both, and of the surrounding country for miles around from the brow of the hill, indicates what a large extent of outer suburban country could be utilised for intensive culture in a similar manner.

While there have been many complaints of loss of fruit in Victoria, due to thrips, strong winds and starlings, yet in this district, not so much damage was done. Some put it down to the heavy growth of Cape Weed, others to the absence of weed, while yet another section ascribe the damage to frosts. If the latter, then it is peculiar that the same trouble was experienced in so many districts, and over so large an area.

"Elinora," Wheeler's Hill.

At Elinora Orchard, Wheeler's Hill, one of the largest in Australia, the cool stores on the property have been utilised to full capacity, and in addition, large numbers of cases of Plums and Gravenstein Apples were disposed of early in the season.

It is a question whether a glut or a scarcity is best for the orchardist. A glut means double the amount of work and overhead cost for small prices. A scarcity means high prices, and less overhead. Another contentious matter relates to the number of varieties. Many orchardists say, "Don't have more than two or three varieties," yet this season

has proved that reliance on a number of varieties saved the situation. Gravenstein was fairly prolific; Jonathans yielded comparatively few, Yates short—but on "Elinora" varieties like McIntosh Red (a highly colored Apple), and Bauman's Red Reinette (also brightly colored) have cropped well, and the fruit has fetched high prices.

One of the most prolific crops is that of Granny Smith, and good prices have already been received for early pickings of this favorite Apple. Pears cropped fairly well also.

The Manager, Mr. Aubrey Stott (a returned soldier), believes in cover crops, fairly heavy fertilising with bonedust, and later with superphosphate and light dressings of sulphate of ammonia or nitrate of soda and some potash.

The whole orchard is clean, cultivated early in the season, and the soil being a sandy loam, it is not difficult of treatment.

High powered spray pumps, cool stores, motor-truck, and grader, together with suitable cultivating implements, combine to enable the management to get best results.

A Market Garden.

The extensive market garden owned by Ryan Brothers, covering the right hand hill side, shows what can be done in a dry season. The orchard trees and the vegetables have to rely on the rainfall, as Yan Yean water for some reason cannot be obtained. It is surprising to note how well they have survived the comparatively dry period recently passed through. The trees and the vegetables are green and growing well.

A new road, made by the Country Roads Board, just being completed, and shortly to be opened, is intended to divert the traffic from the steep grade of the old road. This new road follows the valley, and is picturesque in its curves and windings. It will no doubt be largely availed of, especially by horse-traffic

APPLE AND PEAR GROWERS' ASSOCIATION.

Executive Meeting.

Address by Mr. H. H. Smith, M.L.C.

AT a meeting of the Executive of the Apple and Pear Growers' Association of Victoria, held on March 15, Mr. Herbert H. Smith, M.L.C., attended by invitation and addressed members on the subject of marketing Australian fruits abroad. Mr. J. H. Lang presided.

Mr. Smith said he and other visitors found the market in an awful state. In his investigations he had

the assistance of many organisations and of the Agents-General for Victoria and other States. He read letters from the Victorian Agent-General and also from Mr. White, Victorian Fruit Market Officer in England, who expressed their appreciation of Mr. Smith's efforts to improve the marketing conditions.

Only the first quality fruit and of the right class must be sent to England. In Australia the State and Federal Governments and Control Boards seemed to be fighting each other. Neither the High Commissioner nor Agents-General liked the idea of Control Boards, because they were working against them and caused confusion. There had never been an opportunity like the present for Australian products, as British people were turning strongly to Empire products.

It would be better to use the two-inch grade of Apples for pigs than to export them. If the Commonwealth was going to allow such fruit to go away, then the growers should revolt and run the business themselves, and refuse to be dictated to by the Government.

Mr. Bailey: We are trying to get that.

Mr. Smith: If you establish this Control Board it will mean Government Control. The growers will not have effective representation. Growers should organise themselves on a co-operative basis. That cannot be done by Act of Parliament. Mr. Smith said Control Boards in other industries had been unsatisfactory. The price of dried fruit had been fixed in England, but only 2,600 tons had been sold out of 11,000 tons, until the price was dropped from 42/- for Currants, and it was now down to 32/-. The New Zealand attempt to control butter prices, which resulted in such a fiasco, was another example. The Government had sold the canned fruit pack, and the growers at Shepparton found they could have got 1/6 per dozen more for it without paying the 1 per cent.

The trade had expanded without Control in the past. Under the Bill the Minister would have power to issue or revoke licenses to ship, and the Governor in Council would have power to make a proclamation to prohibit exports. He could see that f.o.b. sales would be killed, and he understood that Victoria sold half its fruit this way. The varieties should be reduced. Victoria was not unanimous about Control. If growers wanted to try and dominate the markets of the world they should organise amongst themselves on a co-operative basis, as America has done.

There were some heated exchanges between Mr. Smith and Mr. J. W. Bailey (Narre Warren), who said that there was at present no body which could remedy the defects, and denied that the Control Board would be costly. The levy could not exceed one penny per case. There would not be interference with existing selling methods, but the Board would reduce the number of varieties exported. Mr. Smith was opposing co-operation amongst growers.

Mr. Smith: No I am not; there are no Control Boards in America.

Mr. Bailey explained that the Board would be able to regulate the quantities going to various ports according to requirements. It would promote greater co-operation amongst distributors and arrange satisfactory shipping and insurance.

Mr. F. Thomas (Bunyip) explained that for years they had been striving for the voluntary system of co-operation urged by Mr. Smith, but it failed dismally. The only thing now left to them was to set up a strong authoritative body. The Bill provided that the Minister should only act after recommendations by the Board. He felt that Mr. Paterson had not treated Mr. Smith fairly, and had not realised that Mr. Smith deserved the best thanks of the primary producers for what he had done. At the same time Mr. Smith had a misconception on some aspects. Growers knew the muddle Mr. Smith had referred to existed, but they could not help it, and were at present absolutely helpless as an organisation.

At the meeting strong exception was taken by several speakers to the new grading regulations, which were deemed to be too lenient. Regret was expressed that 2 inch Apples were allowed to be exported, and further, that the "plain" grade was now permitted to include 100 per cent. blemished Apples. The total blemish allowed on each Apple was equal in the aggregate to a black spot the size of sixpence. One grower stated that to pass a 2 inch Apple with a black spot the size of sixpence was not good grading.

It was decided to hold the Annual Conference at Upper Beaconsfield on May 10, 11 and 12, when numerous educational papers will be read.

CORKSCREW STEEL FENCING POSTS.

The Commonwealth Wool and Produce Co. Ltd., 3 Bent-street, Sydney, N.S.W., advise that they are the sole agents in Australia for the Corkscrew Steel Fencing Posts, which are proving so efficient, both in quickness of erection and durability.

The Canning Fruits Industry

Packing Peaches :: Marketing Canned Fruits :: More Plantings Urged

PACKING PEACHES FOR TOMORROW'S MARKET.

First Steps in Successful Marketing— Good Grading and Packing.

TO BRING ABOUT uniformity of grade and pack of Victorian Peaches, the Horticultural Division of the Victorian Department of

Packing fruit to the correct height in the case and the snugness of the specimens in each layer are the important features for its safe carriage over long distances. Packs to ensure this will bring the fruit to the correct height on the case.

The case used is the Australian ("Long" bushel) case, inside measurement 26in. x 6in. x 14½in., clear of the

be placed in these "pockets," and must not rest directly on top of the fruit beneath. The finished cases show the effect when the side is removed.

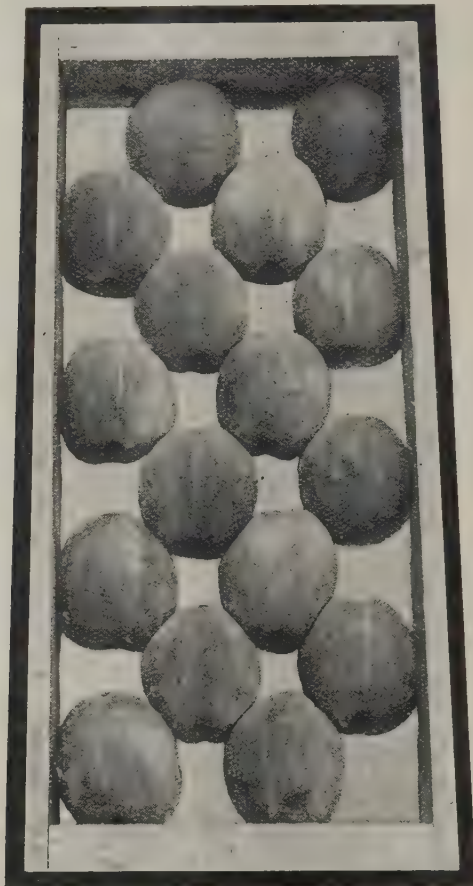
Some Points to Remember.

The outside layers should be a true indication of size and quality throughout the case.

All Peaches should be placed on the cheek, producing an even surface on each layer.

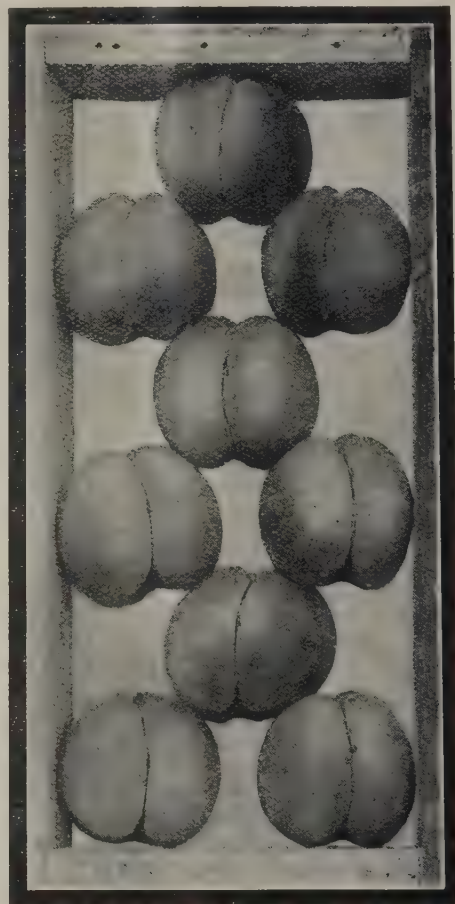
It is the size of the pocket that regulates the height of the fruit.

The correct placing of the first layer is the most important factor in



2-inch, 2-2 Pack, 4 x 4 Layer,
9 Layers in the case, Total 288
Peaches.

Note.—Suitable for varieties such as
"Briggs' Red May," etc.



2½-inch, 2-1 Pack, 3 x 3 Layer,
7 Layers in the case, Total 126
Peaches.

Agriculture has issued a chart under the above title, showing packs for the different sizes of Peaches. The packs shown are recommended for adoption after careful consideration, based on experience gained at the various markets. Peaches sized and packed as indicated will ensure an attractive and firmly-packed case.

division. Illustrations, of which two are reproduced herewith, show the various packs for Peaches from 2 inches up to 3½ inches in size. It is stated that the seemingly large "spaces" or "pockets" which occur in Peach packing are legitimate, and similar to those in orange packs. Fruit in each succeeding layer should

securing correct height.

The second and alternate layers in each pack must not rest directly on top of fruit beneath, but in the spaces.

No Peach should rest directly on top of another, no matter how the case may be placed (see illustration of packed case, p. 152).

Sizing and packing should be treated as two separate operations.

The diameter of the Peach is measured from **cheek to cheek**, not from stem to eye.

Stencil cases true to name, quality, number, and size.

From orchard to shed, at every step, handle Peaches with **great care**.

Grade for color. Sort the soft from the **hard Peaches**, and pack in separate cases to avoid loss.

Do not nail down on the **bare floor**; place **battens beneath**.

Do not walk or sit on packed cases; cases so used may be opened by the agent as a **sample of the whole consignment**.

The following table gives the standardised packs for Peaches:—

Table of Standardised Diagonal Peach Packs.

"Long" Bushel Case, 26in. x 6in. x 14½in. (inside measurement clear of the division).

	Descrip- No.				
Size.	Name of pack.	tion of Layer.	of L'y's.	Total.	
2in.	2-2	5 x 4	9	324	
"	2-2	4 x 4	9	228	
2½in.	2-1	5 x 5	8	240	
"	2-1	5 x 4	8	216	
		(loose)			
2½in.	2-1	4 x 4	8	192	
"	2-1	4 x 3	8	168	
2¾in.	2-1	3 x 3	7	126	

spaces. In other words, no one fruit must rest directly on top of another, no matter how the packed case may be placed.

New Tomato Pulping Plant at Bathurst.

Messrs. Holbrooks Ltd., the well-known sauce manufacturers, have recently erected a very up-to-date Tomato pulping plant at Bathurst, N.S.W. Most of it has been especially constructed in the United States for the company, and is the most modern of its kind in operation, and marks a new step in pulping operations in Australia.



PACKING PEACHES—The delicate "lips" or suture margins of Peaches are protected by letting them rest in the "pockets" or "spaces" formed by the fruit in the layers beneath.

In these "pockets" the "lips" of the Peaches in the bottom layer should face upwards, and the "lips" of the Peaches in the other layers downwards.

Make cases uniform, neat, attractive, inviting.

Use every effort to establish a reputation for your fruit. Attention to details pays handsomely.

Slack packing results in bruised fruit.

A retailer purchasing a case of Peaches with a number of inferior specimens included is compelled to raise the price on the remainder to secure his profit, the increase in price to the consumer tends to decrease consumption, therefore it is a decided advantage to pack true to grade.

Handle fruit as carefully as eggs.

3in.	2-1	3 x 3	6	108	
"	2-1	3 x 2	7	106	
"	2-1	3 x 2	6	90	
3½in.	1-1	4 x 4	6	96 too high	
"	1-1	4 x 3	6	84 correct	
		(loose)			
3½in.	1-1	3 x 3	6	72	
"	1-1	3 x 2	6	60	

Loose means placing the fruit more loosely in the layer than is usual, thus opening the "pockets" or "spaces," because it is the size of the pocket that controls the height of the fruit in the case.

The second and alternate layers in each pack must not rest directly on top of the fruit beneath, but in the

Georgia Peach Growers Work to Improve Marketing System.

As a step towards improving conditions under which Peaches are marketed, an earnest effort is to be made by the Georgia Peach Growers' Exchange, Macon, to secure the enactment of a state standardisation and marketing law during the next session of the legislature in June of 1927. It is believed that a state law to prevent the shipment of green and inferior fruit is essential to a better marketing system.—"Citrus Leaves."

MARKETING OF CANNED FRUITS.

Not Over-Production but Distribution the Problem.

Speaking in Perth recently, Sir Victor Wilson, formerly Commonwealth Minister for Markets and Migration, said that the fruitgrowers' big trouble to-day was the question of marketing as distinct from markets. He said:—

"You frequently hear public men saying that we are over-producing. I want to give that an emphatic denial. We are under-producing, and our great trouble in Australia is that unless we can get continuity of supplies, which will enable us to hold the

side of the world which stood for guaranteed quality. Instead of that, they had found that second and third grade stuff was being put on the market as Australian, having been bought up by speculators.

Sir Victor also appealed to Australians to give immigrants from the Old Country a fair deal and a friendly welcome, thus helping Great Britain to solve her unemployment problems.

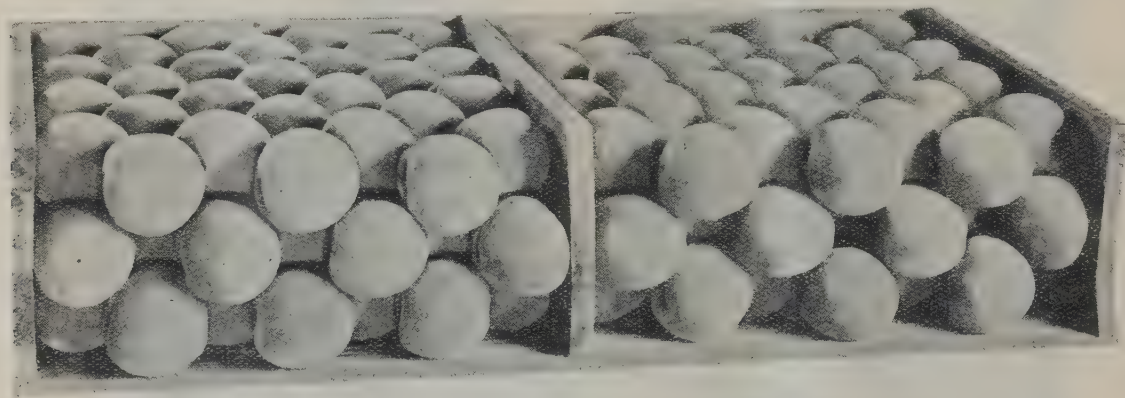
GOULBURN VALLEY CANNERIES.

Despite forebodings early in the season, the Goulburn Valley Canneries are now working at full pressure. The Peach crop has been com-

both before and after canning, and always bring higher prices.

In an article on the subject, the "Garden and Field" (S.A.) recommends growers in that State to plant more clingstone Peaches, as the supply is inadequate for the local consumption, and large quantities are imported from Victoria every year both by canners and wholesale grocers and storekeepers. Clingstone Peaches do well in South Australia, and fruitgrowers who contemplate additional plantings are recommended to try some of the following varieties:—

Phillip's Cling, ripens about end of February; Tuscan, ripens about mid January; Levis, ripens end January;



Case of 2½-inch Peaches with lid and side removed, showing relative position of the fruit.
NOTE.—2-1 Pack, 4 x 3 Layer, 8 Layers in the case, Total 168 Peaches.

markets, our difficulties will continue."

It had been said, Sir Victor continued, that Australia could not sell what she produced. California sent to England 2,850,000 cases of canned fruit a year, while the Australian peak year was 300,000 cases; nothing more than a job lot for which they had to expect job prices. Instead of controlling their own market they had foreign marketing interests buying up their stuff and selling it to suit their own ends. In his judgment, formed during six years in public life, there was no department which was playing a more valuable part in the development of the Commonwealth than the Marketing Department of the Commonwealth. In England, people knew Australia, but they did not know the individual States, just as any one here knew Canada but did not know all the States by name. They had to realise that what went out of this country must be standard quality they could live up to in the six States of the Commonwealth.

The Name of Australia had to be something on the other

paratively little damaged by Rutherglen bug. The crops of the earlier canning fruits were mostly light to medium, but the canneries at Shepparton, Kyabram and Ardmona are now all fully engaged in dealing with the heavy crop of Pullar's Cling Peaches, and the quality is well up to standard.

It is expected that the total output will not reach last year's record. There is need for more of the mid-season varieties of both Peaches and Pears, to keep the canneries fully occupied throughout the season.

CLINGSTONE PEACHES.

More Plantings Urged in S.A.

Some Good Varieties.

CANNED PEACHES are becoming one of the favourite desert fruits, and there is a constant demand from the canneries for good clingstone varieties, which are always preferred to freestone Peaches. The clings travel better,

Sim's, ripens mid-February; Pullar's, ripen late March; Riverside, Goodman's Choice, Golden Queen. Phillip's Cling is America's premier canner and Tuscan is a close second. Pullar's Cling originated in Victoria and is the principal kind used here. Many of these varieties are obtainable locally and are well worth trying.

"It may be that readers may have yellow seedling clings which are worth a trial. It is essential that they have firm flesh; yellow flesh right through; good flavor; smooth even skin; small stone, with no red about it. Many of those enumerated have come from chance seedlings, so if you have any you think good, get one of the factories to try them, and it may be that your name will be handed down to posterity clinging to a Peach!

"Mr. A. O. Pike, of Hectorville, has picked this season from two seven-year-old Levis cling trees, 18 cases of first-class canners and two second quality. This is certainly a proof that this cling at any rate will yield crops very profitably in the Torrens Valley. All they want is careful attention to pruning and cultivation."

New Zealand.

Crop Reports :: Co-ordination of Export :: Pest Control

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable
"Peachbloom," Dunedin.

SHIP TO AUCKLAND, N.Z.

Consign to the Up-to-date
and Established Firm of

TURNERS & GROWERS — LTD. —

City Markets, Auckland New Zealand.

Salesrooms comprise—

55,000 ft. of FLOOR SPACE,
including

FRUIT COOL STORAGE ON
PREMISES.

Staff of nearly 100 Employees
Competent Salesmen only
employed.

HIGHEST PRICES

PROMPT RETURNS.

CABLE ADDRESS: "Cantab"
P.O. Box 439.

BANKERS: Bank of New
South Wales, AUCKLAND.

NEW ZEALAND FRUIT CROPS.

Orchard and Marketing Reports.

The Director of the Horticulture Division has received the following reports from his officers regarding orchard and marketing conditions at the end of February, 1927:—

Auckland.—Apples: Light crop, much damaged by hail in certain localities. Lemons: Full crop set in most localities, medium elsewhere. Oranges: Poorman, full crop; Sweet, light set. Peaches: Golden Queen only remain, light owing to brown rot in blossom. Pears: Packham's now being harvested, good crop; Keiffer's, heavy. Plums: Finished, excepting Monarch. Tomatoes: Light crop mainly owing to extensive stem rot; late plantings looking fair.

Thames and Bay of Plenty.—Apples: Medium to light crop. Damage caused by hail has considerably reduced the percentage of first-grade fruit. Apricots: Light crop now harvested. Lemons: Unusually heavy dropping of main winter crop fruit in almost all orchards in the Bay of Plenty; in some localities as much as 90 per cent. of this crop has failed to mature. Oranges: Medium crop set on most trees. Peaches: Light crop. Pears: Average to light crop. Plums: Average to light crop being harvested. Tomatoes: Light crop. Diseases have been very troublesome this season.

Hawke's Bay.—Apples: Early sorts were light generally, and percentage exportable low. Delicious, average crop of good colour; Jonathans lighter; later sorts average crop. Blemish caused by earlier hail injury reducing the exportable amount by 50 per cent. over the whole district. No black spot. Pears: below average, but clean crop.

Nelson.—Apples: The export pack for Cox's and Dunn's is very disappointing, considerable cracking and roughness mainly responsible, also a fair amount of spot in the latter variety. Jonathans maturing later than last season, crop about equal to last year. Delicious, good crop in most orchards. Sturmer very fair crop; some spot in places. Pears: Williams, crop very satisfactory; Winter Cole rather better crop than anticipated; Winter Nelis light; Keiffer's good; other varieties, fair to good.

Canterbury.—Apples: Crops good. Delicious very consistent throughout. Several varieties spot very bad. A good deal of leaf roller in evidence. Apricots: Finished. Prices were good throughout. Nectarines: Crops very good; owing to dry weather not quite up to usual size. Prices very good. Peaches: These all picked well, with prices steady all through. Pears: Crops are rather better than anticipated, with much less spot than usual. W.B.C. nearly finished, slow of sale; good sample. Plums: These picked well, with mostly paying prices. Through shortage of stone fruit from Central Otago better prices were realised. Plums (Japanese): Crops good, with fair prices. Raspberries: All gardens picked well, with good prices. Strawberries: Second crop now being harvested, and good prices ruling. Tomatoes: Outdoor suffered severely owing to continued dry and hot weather. Prices have been good. Still a few glasshouse available. Walnuts: Fair crops in sight.

Otago and Southland.—Apples: Short crop. About three weeks later in maturing this season than usual. Considerable amount of blemish in evidence, due to hail. Very little black spot in commercial orchards. Nectarines: Average. Peaches: Average crop late varieties. Pears: Average. Early varieties are smaller than usual, owing to late season. Plums: Heavy crop; fruit of good quality. Plums (Japanese): Average crop; fruit of good quality. Walnuts: Average crop. Very little disease in evidence.

Central Otago.—Apples: Although below average for the whole district, the crop, weather permitting, will prove heavier than at first anticipated, but the proportion of second grade, owing to hail, will be heavy. There should be some exceptionally good fruit for export and local market. Nectarines: Goldmines now on the market; crops below average, but quality good. Peaches and Plums: Crops below average, but quality good. Pears: Bon Chretiens now going forward. Tomatoes: Outdoor now on the market; some heavy crops—much of which will probably never be harvested, the season being late commencing and an early winter is predicted by many. Walnuts: Very poor.

FRESH FRUIT EXPORT.

Co-ordination Between Dominions.

During his tour of the Dominion, Colonel Gray, Chairman of the N.Z. Fruit Export Control Board, has been

giving growers the results of his investigations of British markets. He stressed the necessity for regular consignments, and attention to grading. The strongest hold that American fruit had on English markets was that it came over in long lines of two sizes only. For the coming season, he anticipated that prices would range from about 12/- to 15/- per case.

Speaking at a meeting of the Canterbury Fruitgrowers' Association, Col. Gray said that owing to the growth of the fruit trade, the days of individual firms were numbered. There was a tendency for these firms to amalgamate into associations. These Associations would be very dangerous. He had been in touch with the representatives of other Dominions with the suggestion that they form an association of their own, which would mean that six or seven men would have in their hands all the fruit exported by the Dominions. He hoped that such a body would be constituted as a Sub-Committee of the Empire Marketing Board. Shortly the Americans were going to make a tremendous effort to push New Zealand, Australian, and Tasmanian Apples off the market. By cool storing they were shipping later and later, and were gradually cutting the colonies off the market. The Dominions realised this, and an effort was being made to meet it. The issue could not be avoided, but the speaker believed that it could be met and combated. Steps were being taken to this end in Great Britain. Whether Great Britain would assist by some form of preference he could not say definitely, but he hoped that in a few years such powerful assistance would be forthcoming. There was a certain section of brokers in England who seemed to prefer dealing with American fruit.

INSECT CONTROL OF NOXIOUS WEEDS.

Joint Scheme Initiated Against Blackberry and Other Species.

A VISIT was made last year to America and Europe by Dr. R. J. Tillyard, F.R.S., head of the biological branch of the Cawthron Institute, on various scientific business, says the "New Zealand Journal of Agriculture." One of the most important investigations undertaken was that of the biological control of pest weeds, with special reference to Blackberry (*Rubus*), with which New Zealand and Australia are particularly concerned. The line of biological control proposed by Dr. Tillyard is that of the introduction of insect natural enemies of the respective

weeds—a method which involves considerable contingent danger, and which therefore had hitherto been deprecated by several leading entomological authorities.

Before Dr. Tillyard's departure from New Zealand an agreement was made between him and the Director-General of Agriculture in connection with any experiments to be undertaken for the control of Blackberry by insect agency, with the object of safeguarding against the introduction of species which might also attack economic plants. The conditions of the agreement were as follows:—

Precautions.

(1) No species to be forwarded from any country to New Zealand except such as are known to feed on species of the genus *Rubus* only.

(2) All shipments on arrival in New Zealand, to be taken charge of by an officer of the Department of Agriculture, who shall examine the cages to see that they are intact and that no insects can escape from them while being forwarded to Nelson. (This would allow of broken or damaged consignments being either destroyed or their cages repaired before forwarding.)

(3) Dr. Tillyard to furnish to the Director-General of Agriculture an account of the life-history of each species selected for study.

(4) The permits granted for introduction of all *Rubus*-feeding species to be permits restricting the study and rearing of such insects to closed insectaria and cages in the Cawthron Institute grounds and laboratories.

(5) All such insects to be thoroughly tested within such insectaria or cages on all important economic plants, particularly introduced Rosaceae, such as Apples, Pears, stone-fruits, Roses, etc.

(6) If considered necessary, similar tests to be made in country of origin before shipment.

During his visit, Dr. Tillyard discussed his plans very fully with Dr. L. O. Howard, at Washington, Dr. G. A. K. Marshall, in London, and Dr. D. A. Imms, at Rothamsted, with the result that all these representative authorities signified their approval of them.

When in England negotiations were initiated by Dr. Tillyard for the organisation of research into the problem of control of noxious weeds by their natural enemies. The result was the acceptance of a scheme by the Empire Marketing Board, the New Zealand Government, and the Cawthron Trust. For the purpose of this work a grant of £4,000 per annum for five years has been made, one-half to be contributed by the

Board, one-fourth by the Government, and one-fourth by the Trust. The work is to be carried out under the control of Dr. Tillyard, with the approval of the New Zealand Research Council. The annual expenditure is allocated to cover the salaries and expenses of a field entomologist and assistant in New Zealand, and an entomologist and assistant in England; half-salary of Dr. Tillyard; supplies from Europe and America; insectaries and apparatus; travelling-expenses, and miscellaneous.

A report on his tour and investigations, dated January 7, 1926, has been furnished to the Government by Dr. Tillyard. The first section of the report, dealing with the present subject, is as follows:—

Summary of the Present Position as Regards Biological Control of Noxious Weeds.

"There is at present only one completed piece of research along these lines, viz., the attempt to control lantana in the Hawaiian Islands by the introduction of its natural enemies. In this case the line of attack was to try to prevent the plant from seeding. This attempt, though carried out some years ago without such safeguards as we should now deem necessary, was entirely successful. The plants left on the islands, failing to seed, gradually died out, and some blocks were burnt and cleared also. At the present time lantana is no longer a menace in the Hawaiian Islands.

Prickly Pear.

"A much more ambitious attempt on a large scale is that being now carried out by the Federal Government in Australia for the control of Prickly Pear by insect enemies. It is perhaps too early yet to prophesy complete success for this vast enterprise, where no less than thirty millions of acres of land are involved, with an increase of the pest engulfing another million acres annually; but the latest reports indicate that a number of valuable insects have been acclimatised, and can do very fine work in destroying the Pear.

"As a result of my studies and inquiries in America and Europe I feel able to state definitely that there is a very good prospect of either partial or complete control of a number of pest weeds in New Zealand without exposing the country to any serious danger in other directions."

(To be continued)

FRUITY!

Master: "Where do we find Mangoes?"

Bright Boy: "Where woman goes."



Dried Fruit Department

AUSTRALIAN PRUNES ON THE ENGLISH MARKET.

Report by the Hon. W. F. Dunn.

During his recent tour through great Britain, Canada and the U.S., the Hon. W. F. Dunn, Minister for Agriculture in N.S.W., collected a large amount of information regarding the handling of Australian products overseas, and possibilities of improvement. The following report regarding Prunes, extracted from the "Agricultural Gazette," is of interest.

In view of the heavy planting of Prunes which has taken place within the last few years, and the possibility of over-production in the near future, it is essential to find an outlet for the anticipated surplus. It was felt that much valuable information could be gained by personal inquiry as to the possibility of placing our Prunes in the United Kingdom, and as to the best means to adopt to test that market properly.

The matter was discussed with quite a number of brokers, wholesale houses, and retailers dealing in canned and dried fruits. The general opinion was that there would be a big demand for Australian Prunes, provided they could be placed upon this market in a condition equal to the best samples of Californian and European Prunes, and at a price to compete with same.

The following prices for Californian Prunes prevailed during the months of April, May, and June last year, those months being selected in view of the fact that probably New South Wales Prunes would be available about this time. Prices depend to a great extent on size, but taking an average Prune (say, 50-60), the price would not usually exceed £2/11/- per cwt.; from this would have to be deducted about 6/- for freight, insurance, and landing charges, leaving a net f.o.b. price, Sydney, of £2/5/- per cwt., or, say, about 4½d. per lb. Large fruit (such as 40-50), 6d. per lb.; 30-40, 9d. per lb.; and 20-30, 11d. per lb.

The duty on Prunes from foreign countries is 7/- per cwt.—¾d. per lb.

—and as Australian Prunes enter free, they get preference to that extent.

To test the market in the United Kingdom, Mr. Dunn advised making up two consignments of Prunes, sufficiently large to give the fruit a proper trial, and properly packed and graded, one being forwarded to, say, a well-known and reliable broker, and the other to a distributor. In this way a knowledge of how our Prunes compare with those of other countries and what is their actual value would be gained, and any faults in packing, quality, etc., that required to be remedied would be ascertained.

The Minister's attention was drawn by merchants dealing in Prunes, and by the Agent-General's staff, to the fact that sample consignments of New South Wales Prunes forwarded to the English market were found to contain too much moisture in comparison with Prunes received from other countries, resulting in sugaring, which is detrimental to their sale.

After carefully reviewing the position, Mr. Dunn, while considering that it was advisable that the overseas markets should be tested, pointed out the great necessity of making every endeavor to develop the local market, as ultimately our Prunes would have to depend almost entirely on local consumption.

RAISIN PRODUCTION IN SPAIN.

The Raisin producers of Spain have taken considerable interest in the rapidly growing importance of other producing countries in the principal markets of the world. It is reported that the Board of National Economy is studying the Raisin problem, and has prepared export figures which reflect the foreign commerce in this commodity. The principal cause, of an international character, which has had its influence in the Raisin crisis in Spain, is the competition which has arisen with the production of Raisins in South Africa, Australia, and the United States, in addition to those of Greece and Smyrna already well known.

Dried Fruits Publicity in England.

Mr. A. E. Hyland, Director of Australian Publicity, is acting wisely in getting in personal touch with the grocers and other retailers who sell the food products of the Commonwealth across the counter, says the "Imperial Food Journal." Recently he took the grocers of the Walthamstow and Leyton districts into his confidence in an address devoid of bluff and insincerity. He had perforce to confess that the producers of Australian dried fruits had not yet reached the pitch of perfection, but he believed that they were rapidly approaching the day when the bulk of the dried fruit consumed in this country would come from Australia. He knew, indeed, that the grocer had had trouble with Australian products, but he assured them that those defects were known and appreciated by the growers out there, and they were being dealt with in a very scientific and thorough way. From a number of questions asked, Mr. Hyland made himself acquainted with a mass of details, which he promised carefully to examine, with a view to satisfying, if possible, all the reasonable requirements of retailers of Australian products in this country. This is not an isolated instance of Mr. Hyland's activity. He is going all round the trade on the same mission, and we wish him success.

W.A. DRIED FRUITS CONTROL.

Following the passing of an Act to control dried fruits in Western Australia, regulations have been gazetted which provide that all dried fruits produced for sale except Muscatel table Raisins, shall be treated in a registered packing shed. Growers are required to pay a levy on the dried fruits they produce. No dried fruit shall leave a packing shed until a permit has been received from the Dried Fruits Board. A breach of this regulation involves a penalty of not more than £100.

DRIED FRUITS CONTROL.**Effect of Price Fixing.**

ADVICES from the United Kingdom indicate that the "Control" methods adopted by the Dried Fruits industry are at variance with the only system of trading which can ever hope to succeed, viz.:—To meet a market's needs and not to attempt to force it.

It is a remarkable fact that, as soon as a Board of Control is brought into existence, the first thing it attempts is to fix prices, and quite frequently with the full knowledge that the goods to be handled by the Board consist of only a fraction of that class of commodity marketed in the United Kingdom annually, from all parts of the world.

There seems to be little doubt that the quality of Australian Dried Fruits is second to none, provided they are marketed within reasonable time, but, like most perishable commodities, storage does not improve the quality.

Last year's prices for Australian Sultanias reached as high as £78, but owing to an effort by the Board to maintain high prices, opportunities for clearing stocks, when the demand existed, have been missed, and the latest price advised is £61/16/-, with still approximately 3,000 tons on hand, and possibly the heaviest crop yet harvested in Australia still to be placed on the market, to say nothing of the competition from Smyrna, South Africa and other countries.

In May of last year, Australian Currants were realising from £48 to

£52 per ton, but owing to slow releases the market gradually declined until £32 was accepted, and this in spite of short Eastern crops.

As the cost of the Dried Fruits Control Boards, Federal and State in conjunction with London, is estimated to be in the neighborhood of £30,000, the result so far is most disappointing.

It has been demonstrated, after the loss of millions to the dairy farmers of New Zealand, that the only live market is the "free" one, and this system is at last to be reverted to by New Zealand after three years of consistent effort to fix prices. Why these efforts are persisted with is beyond the comprehension of the business world, as a bad market can only be made worse by storing surpluses against themselves, for the reason that retailers are fully alive to the statistical position of every crop, and will only buy in accordance therewith. There are no problems in marketing. Provided quality and pack are of fair average, the value is regulated in accordance with the laws of "supply and demand." Nothing can be done to alter this inevitable law of trade, and it is to be hoped that at no late date this will be fully realised, with profit to all.

KUNDE & SOHN
Genuine
BUDDING KNIVES
FOR SALE
Price, 4/6, each, post free

OSCAR NOBELIUS
Kia Ora Nurseries, Narre Warren, Vic

**Sell your Dried Fruit in the
Best Market**

J. YOUNGER

The Independent Dried Fruit Merchant

22 Market Street - - - Melbourne

Will buy your fruit outright, or will export on your behalf at a total Export Cost of £12/10/- average, and a Cash advance of two-thirds London Price.

Commonwealth quota purchased for Cash at Highest Current Rates. No commission. Bank reference and all particulars on application.

BUYER OF ALL EVAPORATED FRUITS

NEW METHOD OF DEHYDRATING BANANAS.

The American Consul at Honduras reports that a concession was granted by the last Honduran National Congress for the establishment of a modern Banana dehydrating plant in Honduras. The decree grants the Honduran-German concessionaires the free importation of machinery for the first plant, and free entry of supplies for five years.

An experimental plant has been established for some time, and the machinery used is of German origin, and was used successfully by one of the partners in South Africa before the World War. It consists of one dryer, which used either wood or crude petroleum for fuel. The dryer contains 23 hollow plates through which steam passes, heating 175 shelves, holding 60 Bananas each. The process is based on the principle of dry heat in a partial vacuum, and takes from five to ten hours, according to the percentage of moisture to be extracted.

The Bananas dried by this process are sweet enough to be used as a confection without further treatment. However, it is the plan of the producers to ship the product to the United States and Europe as a prime material in wholesale quantities, to be used as fillers for sweets, biscuits, and similar products. The dried product is made from ripe fruit, and at the present time the supply is obtained from local plantations.

CEYLON—DUTY ON CURRANTS.

A Government notice dated December 6, 1926, states that the Legislative Council has passed a resolution imposing, as from December 18, 1926, a duty on Currants imported into the Colony at the rate of Rs. 1.25 per cwt. (about 1/10½).

Exports of Australian Currants to this country do not assume large proportions, the figure for the year 1925-26 amounting to only 15,264 lbs., valued at £412.

MERBEIN VITICULTURAL STATION.

In view of the taking over the Merbein Viticultural Research station by the Council for Scientific and Industrial Research, the rate struck by the Mildura Vineyards Protection Board for this year is only 6d. per acre on old vines, and 3d. on young vines—which is one-third of last year's rate, and one-fifth of the rate previously struck.

Tasmania

The Export Season :: Cider Industry :: April Orchard Notes

(By our Correspondent)

THE APPLE EXPORT SEASON is now in full swing, and consignments are freely coming forward for both interstate and overseas markets.

The reports furnished by the Supervisors of Exports state that the general condition and quality of the fruit are excellent, and there is a great improvement in the packing and branding.

At the outset a little confusion was in evidence in respect to the altered method of sizing, but growers are now generally conforming to the new system.

The first boat to load fruit for overseas markets was the s.s. "Ballarat,"

ously damaged; in many cases the fruit being badly bruised, and even the bark and fruit spurs being split and broken.

Although hailstorms are occasionally experienced throughout the State, they generally occur only in isolated instances.

Growers are considering whether a comprehensive scheme of insurance cannot be brought into effect to safeguard against total loss or serious damage. If a system could be evolved at a reasonable premium, it is probable that the majority of orchardists would take advantage of it.

Interstate Shipments.—As the season advances, it is evident that a much larger proportion of the Apple and Pear crops is being forwarded to the mainland markets. In addition to the regular normal shipments to Sydney and Brisbane, a fair quantity of fruit has been forwarded to Melbourne and Adelaide, owing to the shortage of the crops in those States.

Arrangements have been made this season for some of the interstate vessels to load fruit at the northern river jetties en route to Melbourne, and consignments are being forwarded direct from Blackwall, Deviot, Hillwood and Beauty Point. A number of Tasmanian orchardists are forwarding consignments of Apples and Pears to Melbourne, in order to supply the requirements of some of the Victorian cold stores, which are unable to obtain sufficient fruit for this purpose in their respective districts.

Packing Instruction.—The annual classes which are conducted by the Fruit Division of the Department of Agriculture to instruct the pupils attending State Schools in fruit districts in the art of packing and grading fruit for export, commenced operations at the beginning of the month.

The attendances have again materially increased this season, and several new centres have been included in the roster. Classes are now held at fortnightly intervals in the principal fruit centres, and many of the children thus trained are, upon leaving school, employed in the packing sheds, and in some instances large sheds have been entirely operated by the trainees.

Import of N.Z. Apples into Australia.—Representations are being made to the Commonwealth Government to lift the embargo on New Zealand fruit, which at present is opera-

tive owing to the danger of the introduction of bacterial blight (*Bacillus amylovorus*). Although fruit-growers are assured that it is almost impossible to transmit the disease per medium of the fruit, they are generally unanimous that it is an unwise policy to take any chances of the disease entering Australia.

Cider Industry.—A good deal of attention is now being paid to the possibility of developing our dried Apple and cider industries, so as to provide a more profitable market for the lower grades of fruit.

If this could be brought about, it would also tend toward the improvement of the export Apple trade, as many growers would not then risk the marketing of their lower grades.

Investigations are now being carried out in collaboration with one of the principal English cider manufacturers, with a view to securing a more economic method of processing.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osake Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

Fruit Shipments United Kingdom and the Continent

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.
AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

ORCHARD NOTES FOR APRIL.

(By P. H. Thomas, State Fruit Expert.)

In spite of the dry weather which is being experienced, the Apple and Pear crops have on the whole made satisfactory development.

This is particularly evident where the soil culture and manuring have received careful attention. The season has proved conclusively the value of such work, and orchards which have received only a casual treatment or been partially neglected have produced a fair percentage of unmarketable or inferior fruit.

Picking and Packing.—The general quality and packing of the fruit coming forward shows an all-round improvement. There are still a number of growers whose consignments arrive in a slack condition. This is particularly evident amongst the

which left on February 25th with 11,000 cases for London.

The season is quite two weeks earlier than normal, and fruit is well up to size. The latest reports from London encourage the belief that the prospects have recently improved for the early shipments, owing to the keeping qualities of the late American fruit being impaired, and the tendency to get rid of stocks earlier on account of this disability.

It is understood that if growers fulfil their bookings, the total quantity exported overseas will be in the vicinity of one million cases.

Hail Injury to Fruit Crops.—Toward the end of last month, a severe hailstorm was experienced in the Derwent Valley and Bagdad districts, the injury being confined to a belt of country extending from the Lachlan to Mangalore.

In this area the crops were seri-

smaller sizes, in some cases there being sufficient space for another row of fruit to reasonably fill the case.

Attention is also called to the Special and Standard Grades. These provide that fruit must not be included in these grades which is under 2 1/2 in., except in the case of normally small varieties which may be shipped down to 2 in.

The definition "normally small varieties" applies to such as Crofton King Pippin, Fameuse, Pomme de Neige and Yates, and does not extend to varieties like Jonathan, Dunns, Cleopatra and Sturmer.

Overseas Markets.—The following varieties will be suitable for overseas shipment during the month:—Crow Egg, Scarlet, Cleopatra, Stone Pippin, French Crab, Sturmer. An endeavor should be made to pick and forward as far as possible in the order as enumerated.

Pears.—Gibbins, Glou Morceau and Josephine de Malines may be shipped during the first weeks of April, but it is inadvisable to risk consignments beyond this period.

Interstate Markets.—Good colored dessert Apples such as Jonathan, King David, Tasman's Pride, and Duke of Clarence, should find a ready market in Sydney and Brisbane, and may be forwarded throughout April.

Late keeping varieties for late marketing should be picked just before approaching maturity (when the ground green color first commences to pale to yellow), and placed in cold storage at the earliest opportunity.

Orchard Cover Crops.

In order to keep up the fertility of any soil, other measures besides the annual application of the various commercial fertilisers must be practised. Most soils, in their virgin state, contain supplies of decayed or decaying vegetable matter in varying degrees. This is known as humus, and is a very necessary factor in preserving the productivity of the soil. Humus is one of the last stages in the decomposition of animal and vegetable matter, and is beneficial in the following ways:—

It increases the water-holding capacity of light soils by keeping them together, and leaving them less porous.

It improves the aeration of heavy soils, and makes them less likely to bake and crack.

A plentiful supply of humus will increase the warmth of a soil, for a dark surface will retain and draw heat more than a lighter one.

It also promotes bacterial action by furnishing the food material. On the formation of humus in a soil certain acids are produced which will com-

bine and dissolve mineral plant foods, making them available to the plant.

In certain districts of Tasmania, and especially in the lighter class of loams there has been a tendency to deplete and lower the humic content of the soil by continual clean cultivation. The orchards, year after year, have been maintained at a tilth, and practically no animal matter has been available to enrich them.

The cheapest and most satisfactory method of adding organic matter to a soil is by growing and ploughing in of cover crops, popularly termed "green manuring." If they are of the leguminous order, the

happens to a very minor degree. Any traces of wheel marks, etc., soon disappear from a healthy-growing crop.

There are two main types of cover-crops that can be grown—the legumes and the non-legumes. Peas, Vetches, Beans and Clover, etc., belong to the legume species. Cover-crops of these are more valuable than those of the non-legume kinds, as they are capable of gathering nitrogen from the air, and when ploughed under increase the nitrogen content of the soil. A good plan is to sow only alternate lands during the first year, leaving the untreated rows for green cropping the following year.

In order to assist in the growth and development of a cover-crop, especially in those soils where there is very little organic matter, it is advisable to apply a dressing of superphosphate when sowing.

The following are the principal cover-crops that can be grown in Tasmania, with the approximate amount of seed required per acre:—Rye Grass (Italian), 20 lb. per acre; Rape, sow approximately 20 lb. per acre; Horse Beans, sow 1 1/2 bushel per acre; Peas, sow 2 bushels per acre; Clovers, 15 lb. to 20 lb. per acre; Oats, Barley or Rye, 2 to 3 bushels per acre.

NAMES OF ASSOCIATION SECRETARIES WANTED.

The Secretary of the South Australian Fruitgrowers' and Market Gardeners' Association (Mr. W. J. Kimber), Adelaide, in a recent letter, asked for lists of Secretaries of Fruitgrowers' organisations in other States, his idea being, if possible, to compare notes. "There is great need," states Mr. Kimber, "for Associations to assist each other."

Importation of Fruit Fly Feared.

Mr. Kimber adds:—"We are much concerned at the importation of Apples from W.A., as we dread fruit fly. We are interviewing the Minister for Agriculture to urge stopping them coming. We have a light crop, and believe Victoria has also; but we can get Apples from Tasmania, which seems to have the same insect pests as we have."



(GIBBS BRIGHT & CO.,—See Page vi).

Bankers:
COMMERCIAL BANK OF AUSTRALIA,
Collins Street, Melbourne.
Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL
Consign your Fruit to
FRUITGROWERS DEPOT
(Licensed and Registered by the Government of Victoria).
Managing Director—M. J. FOY.

Wholesale Fruit and
Produce Commission Agents
Importers and Exporters of Interstate Fruit
471 Flinders Lane, Melbourne
TELEPHONE F 1392.
Telegrams: FRUITGROWERS,
471 Flinders Lane, Melbourne.

To Orchardists

Send for Prices of the
"Bave-U" Sprayer
to
E. ROBINSON
333 George St., SYDNEY

nitrogen content will also be increased.

The best time to sow down a cover crop is during April. This will ensure the benefit of the autumn rains, and will give it time to develop sufficiently to be able to withstand the winter frosts.

The most satisfactory method is to sow by means of a drill, leaving a space of approximately four feet on each side of the trees. Most growers take exception to sowing down their orchards whilst the fruit is yet on the trees, thinking that the harvesting of the fruit crop will cause damage. This is not the case, and only



Fundamental Principles of Citrus Growing

Essentials for Commercial Success

(By Redvers J. Blatt, B.Sc., Ph.D., South Africa and California)

IN California and Florida citriculture is one of the most important industries. During the 1923-24 season 43,000,000 cases of Oranges and Grapefruit were consumed in the United States of America and Canada. Of this total, California supplied 22,000,000, and Florida 20,000,000 cases. Of the 5,500,000 cases of Lemons consumed in the same territory, California supplied almost the entire quantity. Millions of pounds have been invested in Citrus in these countries, and so Citrus growing has been carried on on strict business lines, and on a scientific basis.

In the British colonies, much capital has been invested in Agriculture, and farming is gradually being regarded as a profession that requires the application of brains and sound commonsense. Instead of the dunce of the family being placed on the farm, the brightest are being encouraged to go in for farming.

No matter in what country Citrus growing is taken up, there is only one way of making a success at it, viz., pay careful attention to the seven fundamental principles.

If six, any six, of these are carried out to the last letter, success will not be achieved, for the harm done by neglecting the seventh will be too great. It is a case of taking care of all seven or getting out of the business, i.e., if Citrus is grown on a commercial basis. No matter how well the crop is grown, if the handling or distribution is poor, the returns will be poor.

The average Citrus grower is not technically trained, and cannot be bothered with scientific data. He is interested in only one thing, and that is £.s.d., and what he wants to know is, how to make Citrus growing profitable. The only advice we can offer is—"pay strict attention to the seven fundamental principles, and whatever is done in the grove, must be done in terms of these principles." The wise grower will regard these principles as his text, and will stick to them religiously.

The following are the seven fundamental principles:—(1) Location; (2) bud selection; (3) soil fertility; (4) soil moisture; (5) pest control; (6) control of fungous diseases; and

(7) careful handling and distribution of the crop.

Each principle will be taken up in turn.

(1) Location.

The home of Citrus fruits is in the tropical regions of China, and in the Malay Peninsula, and yet to-day the best Citrus is to be found in the temperate zones. Citrus growing is, therefore, limited to a few countries, and even here the suitable areas are restricted. **Temperature** is undoubtedly the most important consideration with regard to the proper location. Citrus trees seem to stand very high temperatures, provided there is sufficient moisture in the soil. There are some excellent Citrus groves in Imperial Valley, California, where the temperature often goes up to 116 deg. Serious damage, however, is done to certain Southern California groves that are suffering for want of water, by hot winds from the Mojavi desert. The leaves are scorched on the tree, which soon becomes defoliated. Well irrigated groves usually show no damage.

With regard to temperature, the limiting factor is **frost**. Places where severe frosts occur are out of the question for Citrus. Mild frosts are experienced in California, the largest producer of Citrus fruits in the world, and practically every year artificial heating has to be resorted to in order to protect the groves from frosts. In both California and Florida severe freezes have occurred, resulting in very heavy losses to growers, and severe setbacks to the trees. Apart from the fruit being frozen, and therefore useless, many trees are killed outright, others take years to recover. Citrus may be grown in areas where the frost will do no more damage than kill back the new growth; there being three cycles of growth annually, the loss of one cycle can

Rosella Company, Richmond

are buyers of

QUINCES and MELONS

Any Quantity

Highest Prices Given

mean only a slower growing tree. If the frost is severe enough to freeze the fruit every year, it would be disastrous to plant Citrus trees. If a freeze takes place in cycles of five or six years, the grower may be able to stand this loss. There are so many well established groves in different areas of Citrus growing countries, that the subject of temperature should not cause much anxiety.

Texture and Depth of Soil.

The next point to consider with regard to location is the soil. Citrus can be grown on almost every conceivable type of soil, with a certain amount of success, but certain types of soil should be avoided, such as shallow soils of any description, and very heavy soils. Depth of soil is of the utmost importance, and soils with a hard pan or impervious subsoil near the surface should never be planted to Citrus. Since the root-hair zone in different soils is within the first four feet of soil—being nearer the surface in heavy soils—Citrus trees should not be planted in soils that have not at least four feet of depth. About halfway in texture between sand and clay is a sandy loam which is undoubtedly the best Citrus soil. The sand lacks plant-food material, while the clay is difficult to work, and its richness is offset by the fact that it does not take water easily in the dry season, and often becomes waterlogged in the wet season. Throughout the world, heavy soils have given in different results, and owing to the poor drainage, gummosis plays havoc with trees on heavy soils. Along the banks of rivers or streams the best soil is usually found, and if it is not too cold these river bottom lands should receive preference.

Available Water in the Dry Season.

Being evergreens, Citrus trees need water the whole year round. About 3 inches per month is the normal requirement of bearing trees. If the rainfall approximates this, and is well distributed, irrigation will be unnecessary. We find, however, that most countries in the temperate zone have a dry season of three or four months. Irrigation will then have to be resorted to, about three acre-inches being applied per month. One of the chief factors with regard to the acreage to be planted will be the amount of available water in the dry season. It is immaterial from what source the water for irrigation is obtained, provided it is not alkaline, the main consideration being the cost and the quantity available.

In relatively few areas can Citrus be grown profitably on a commercial scale without irrigation. In California the cost of irrigation varies

from £2 to £10 per acre per annum. In South Africa it rarely costs more than £2 per acre.

Wind, Exposure, and Distance from Rail.

There are many other minor considerations with regard to location, such as wind, exposure, and distance from rail, etc., but all these are of minor importance. Windbreaks can be constructed, the *Grevillea robusta* (Silky Oak) being recommended. A north-eastern exposure is preferred, so that the grove can get as much sunlight as possible.

Owing to the long distances that Citrus fruits for export have to travel, it is imperative that they reach their

time past in the Doncaster and Templestowe districts with great success. The plant consists of about 30 fumigation sheets, and all the growers who have had their groves fumigated have expressed great satisfaction at the results. In fact, this is the case all over the State, wherever fumigation, which is compulsory in Victoria, has been carried out. The plant is now moving to the Ringwood district.

SHORTAGE OF LEMONS.

During the summer of 1927 there was a serious shortage of Lemons on the Melbourne market. Local supplies were scarce, and the trade had to import Lemons from California to supply the public demand.

The suggestion is made that if Australian growers picked the fruit in the green stage, and stored it till the scarce season, they would benefit by a better market throughout the year, and the need for importing would be reduced.

CITRUS FROM U.S.A.

American citrus fruits have found acceptance with Australian consumers during the summer of 1927. High quality "Sunkist" Grape-fruit, with its neat paper wrapper, graced many city and suburban shops.

Lemons of the "Pure Gold" brand were also noted, and these were appreciated by the shopkeepers and the public.

Altogether, 3,050 cases (11-3rd bushel) of American citrus (Oranges, Lemons and Grape-fruit) have been received in Melbourne this season, to the middle of March.

N.S.W. CITRUS IMPORTS.

The Chief Inspector and Officer-in-Charge, Export and Import Branch, N.S.W. Department of Agriculture, advises that the following quantities of Citrus fruit were imported into New South Wales this season from California and Italy:—

From 1/12/26 to 15/3/27—			
From Oranges. Lemons. Grape F't.			
California	6,124	5,893	716
Italy	120	1,342	—
Totals	6,244	7,235	716

MORE APPRECIATION.

The "Fruit World" is still keeping up to its standard, and in my opinion should be read by every fruitgrower. —John B. Heckley, Moroota, via Windsor, N.S.W.

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,

11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,
9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements

Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

destination as soon as possible. Rapid despatch can only be accomplished when groves are either on the railway or very close to it. Since colonial roads are not of the best, the quickest and safest way is by rail.

(To be continued.)

CITRUS FUMIGATION.

Fumigation of Citrus orchards has been carried out by the Victorian Department of Agriculture for some

Western Australia

The Viticultural Industry :: Notes and Comments :: Export
West Swan Show

The Viticultural Industry.

Annual Report.

IN the Annual Report of the Department of Agriculture, submitted to Parliament recently, Mr. H. K. Johns, Viticulturist, reported as follows:—

Since taking up my duties in August, 1924, I have frequently visited the vinegrowing areas of the State from as far north as New Norcia to Kataning on the Great Southern line and Boyanup and Bunbury in the South-West, and carefully noted the work which has been done in the past, and the possibilities for the future. I have been impressed with the vast area of country suitable for viticultural purposes, as well as the superior quality of fresh and dried fruits and wine Western Australia is capable of producing. The soil, climate and rainfall are equal to, and in some places better than, the Grape lands of the Eastern States.

A further noticeable feature is the perfection to which Currants, Raisins and wine varieties of Grapes can be grown here without the assistance of irrigation. With these natural conditions it is all the more remarkable to find that although the industry has made wonderful progress in other States—more particularly in South Australia—it remained almost at a standstill so far as Western Australia was concerned, except for a short period of activity in Raisin and Currant growing—a branch of the industry which has now lapsed into a state of depression.

It has come under my notice that owing to the low prices ruling for table Grapes and Grapes grown for drying purposes, a percentage of these are being processed into wine, and the resultant article is of low grade. This practice, which is detrimental to the industry, and especially to recognised commercial wine growers of the State, who aim at a high standard of production, is one that cannot be too strongly deprecated. Had the owners of small vineyards planted a proportion of their holdings with suitable wine varieties, they would have found a ready market for

Kinds.

	1923-24.		1924-25.	
	Acres.	Prod'tion. tons.	Acres.	Prod'tion. tons.
Table Varieties—Productive	1,062	2,661	1,019	2,069
Wine-making Varieties—Productive..	1,078	1,929	1,240	1,735
Drying Purposes—Productive	1,465	5,496	1,880	4,416
Not Bearing	1,630	—	1,192	—
Total	5,235	10,086	5,331	8,220

their product in our own local wine-makers. It is simply waste of time to attempt to make good wine from Grapes of unsuitable varieties.

Some of the Western Australian wines tasted, of which there are large quantities in stock, are exceptionally good, and would do credit to any wine-producing country in the world.

During the early part of the present year Mr. A. V. Lyon, of the Viticultural Research Station, Merbein, Victoria, visited this State, and demonstrated the cold dip process of treating Sultanias and Lexias. Following on the information given, several growers in the Swan district treated some of this season's crop, with varying results. The treatment was somewhat adversely affected by the damp weather conditions which prevailed during the drying period. Mr. Lyon, in the course of his addresses, suggested the establishment of an experimental and demonstrative vineyard in the Swan district.

This season's Currant crop was an exceptionally good one; the fruit graded out well, being of good color, size and character, and the percentage of "red berry" was small. Although Lexias grew to perfection they suffered considerably during the latter end of the season, when, at the time of drying, constant rains and damp atmosphere caused considerable loss, and practically all Lexias that were being held for late marketing as fresh fruits were rendered useless.

At least one large winery company increased the storage capacity of their plant to enable them to take large quantities of Muscats for wine-making purposes, but the project had to be abandoned owing to the Grapes not maturing through excessive dampness. All wine-making varieties yielded splendidly, with the exception of Muscats, and good saccharine readings were recorded. I have sampled some exceedingly fine types of wine of this year's vintage.

The season was an excellent one for the Sultana variety, yields per acre being very high, and good densities were recorded. There is every indication that with the good prices ruling for this variety further plantings will be undertaken.

The area under vines in 1923-24, and 1924-25, together with production in tons, is as follows:—

showing an increase in area of 96 acres, and there is every indication that the figures will be increased this season.

Wine made in 1923-24—233,196 gals. Wine made in 1924-25—223,701 gals. showing a decrease of 9,475 gallons. I attribute this effect to early rains, followed by humid atmospheric conditions, which brought about oidium in a very bad form.

During the year 1924-25, 25,974 cases of Grapes were exported from Western Australia to overseas markets, as against 36,576 for the year 1925-26, showing an increase of 10,602 cases.

There was very little fungoid disease this season—1925-26. Black

**Brand Your
Fruit Cases and Bags**

with

**CALDWELL'S
STENCILLING
INKS**

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

**HAMBURG
(GERMANY).**

**Ph. Astheimer
And Sohn,**

**Fruit Brokers . .
and Auctioneers**

(GERMANY)

Established 1863.

**Largest receivers of Australian,
Tasmanian, and American
APPLES.**

Foreign Apples a Speciality.

spot or anthracnose of the Grape vine, and oidium, were held firmly under control by proper preventive treatment, and the excessive dry weather early in the year assisted growers materially in this direction.

Muresk College.

The laying out of a vineyard at this college for demonstration purposes is being proceeded with, and will be on progressive lines so as to enable students to follow the different stages of development in regard to growth of the vines and cultivation necessary.

The laboratory which I have started is gradually being equipped with the latest and most approved appliances for testing different types of wine, and conducting bacterial and other examinations in connection with wine and wine treatment. This laboratory has already been the means of furnishing many growers with important and reliable information upon various matters of a technical and obscure nature, which have been submitted for consideration and advice.

During the year pruning demonstrations have been given in various centres. I am of the opinion there are great possibilities in this State for the viticultural industry, as apart from the fresh and dried fruits branch, The Commonwealth Government has officially stated that the wine industry is one of the three great natural industries of Australia—wool and wheat being the others—and, with its exceptional natural conditions, Western Australia should take a leading position.

FRUIT JOTTINGS FROM WESTERN AUSTRALIA.

Overseas Shipments.

Record Crop and Good Prices.

THE WORK of gathering and packing Apples and Pears for export is keeping the orchardists in Western Australia very busy at the present time. Space for 400,000 cases of fruit has been booked on 20 boats, whose dates of sailing range from March 2, 1927, to April 25, 1927. Four of these are loading direct for European ports, taking 190,000 cases, and the balance are for the United Kingdom.

Grapes as well as Pears and Apples are represented in the total named above, but Apples will comprise by far the major portion of the quantity exported.

An interesting development in this year's Apple shipments is the quantity that has been sold compared with that to be shipped on consignment. In past seasons the latter has always

been the greater, but this season from 65 per cent. to 70 per cent. has been sold at very satisfactory prices at growers' railway stations. It is not often that a heavy crop coincides with strong demand and good prices, but that is the fortunate position of the Apple industry in Western Australia

SHIP YOUR FRUIT TO GERALD Da COSTA



Head Offices—
**Floral Hall, Covent Garden,
LONDON, W.C.2**

*Importers and Distributors of
all kinds of English, Colonial
and Foreign Market Produce*

BRANCHES:

COVENT GARDEN, W.C.2.
8, Russell Street.
524, Central Avenue.
Stand, 151, English Flower Market.
Stands, 31, 32, Foreign Flower Market, Apple Warehouses, Jubilee Market.
Tel.: Gerrard, 868 and 5786.
Telegrams: "Geracost, London."
Stands, Nos. 151, 152 and 153.
Spitalfields Market, E.1, and 54 Brushfield Street, E.1.
Telephone: Avenue 8804.
Telegrams: "Spitacost, London."
Apple Warehouses:
Church Passage, Spital Square, London, E.1.
3, 4 and 5, The Arcade, Borough Market, London, S.E.1.
Telephone: Hop, 3373.
Telegrams: "Borocost, London."
G.N.R. Potato Market, King's Cross, N.1.
Telephone: North 1482.
Telegrams: "Kincrocost, London."
13 & 17 Victoria Street, Liverpool.
Telephone: Central 888.
Telegrams: "Geracost, Liverpool," (Facing Commercial Sale Rooms.)
Deansgate, Manchester.
Telephone: Central 7156.
Telegrams: "Geracost, Manchester."
17, Humber Street, Hull.
Telephone: Central 4041 Y.
Telegrams: "Geracost, Hull."
Southampton Docks, (Facing No. 45 Shed.)
Telephone: Southampton 2610.
Telegrams: "Geracost, Southampton."
Eclipse Yard, Westgate, Mansfield.
Telephone: Mansfield 440.
Telegrams: "Geracost, Mansfield."

this season, the crop being a record one, and of very fine quality.

An unusual trade for Western Australia has been the shipment this month of several thousand cases of Apples to the Eastern States, with the prospect of a lot more to follow.

Until the middle of March the climatic conditions have been all the Apple growers could desire, but last week one of the principal districts (Bridgetown) was visited by a heavy

windstorm that did a deal of damage, and will cause considerable loss in turning excellent export fruit into windfalls.

The weather experienced throughout the season has not been so satisfactory from the Grape growers' point of view, either as exporters of fresh fruit or producers of dried. Over an inch of rain fell in the Grape districts last week, and as well as upsetting drying operations has had the effect of greatly increasing the labor of packing for export, the bunches needing careful attention in removing any cracked berries.—Geo. W. Wickens, Superintendent of Horticulture.

WEST SWAN GRAPE SHOW.

The West Swan District Association held its Annual Grape and Dried Fruit Show on March 12. The leading feature of the Show was the display of Grapes, which, in quantity, was better than at any previous show, but in some cases, owing to the unfavorable season and the apparent inexperience of some exhibitors, the quality and method of staging were not equal to those of some previous exhibits. The "West Australian" trophy, of £5/5/-, for the highest number of points gained in the classes for bunch, case and dried fruit classes was won by Mr. P. H. Taylor, President of the Association, whose exhibits were not only numerous, but of wonderful quality.

The display of dried Grape Fruits was the best yet staged at West Swan shows, and upheld the reputation of the district for the quality of its products. A feature of the Show was the number of exhibits and the keen competition in cases of Grapes, packed for the home market and for export. Mr. P. H. Taylor was successful in the cases packed for local market and also for the best three-quarter flat case packet in cork chips for export. Mr. A. E. Marshall showed the best closed case for local market. Mr. W. Marich was first amid keen competition for a case of Almeria packed in wood wool, while Mr. H. E. Whitfield won the like honor for case of black Malaga, packed in wood wool. This portion of the show was an educational object-lesson. An interesting exhibit of a large number of varieties of the gourd family was staged, not for competition, by Mr. Percy Traylen.

Other successful exhibitors included:—A. G. Marshall, J. P. Woods, B. Telfer, Kerruish and Eaton, H. Bailey, C. K. Waldeck, Westlake Bros., W. Stent, F. Hooper and Son, F. R. Preston, G. E. Sait, O. Grizo, W. P. Tomlin and Sons.



"DEAD IN THE SHELL."

The Real Cause of the Trouble.

That some cases of "dead in the shell" will occur is inevitable, because such chicks are weaklings prior to hatching (writes the Poultry Expert of the N.S.W. Department of Agriculture). If, however, this trouble assumes undue proportions it is important to look in the right direction for the cause, discarding some of those that are commonly held to account for it.

All sorts of theories, such as hardness of the shell, drying out of the moisture, atmospheric changes in the incubator, too much or too little ventilation, the poisonous effect of too much carbon dioxide, etc., have been propounded to account for it, but for the most part they are proved to be untenable as a sole cause. While any or all of these may be contributing factors, inasmuch as they would have a weakening effect on the embryo, they are not in themselves the supreme cause.

Too Weak to Get Out.

The cause of "dead in the shell" could almost be expressed in the one word—"weakness." The chicks are dead in the shell because they are too weak to get out. This may occur as a result of low hatchability, or because of faulty management of the incubator (such as allowing too high or too low, or an erratic temperature). Late hatches are the result of low temperature or stale eggs.

The time to prevent the occurrence of a lot of "dead in the shell" is often many months prior to the egg being laid; in other words we must look to the breeding stock and the conditions under which they are kept, including the methods of feeding. Too much meat or any highly nitrogenous food is often responsible for failure; the ration should be rather wide in ratio compared to that usually fed to laying hens. Particular attention should be paid to the male bird to see that he is well fed and kept in good condition. Until more attention is given to the development and stamina of the stock that it is intended to breed

from, "dead in the shell" will continue to be an annual experience of some magnitude.

At the same time, it should be understood that every fertilised egg is not bound to produce a chicken—in fact, some "dead in the shell" chickens are quite a natural circumstance, but they should be taken as representing the weaklings, just in the same way as weaklings die off after emergence and the living ones represent "the survival of the fittest." It should be the aim of the poultry farmer to increase the percentage of the latter, by breeding from sound

Orchardists!

Hardwood Dump

Fruit Case Shooks

6d. each in truck loads

F.O.R. Bairnsdale

A. Palmer & Co.

Bairnsdale Sawmills
and Produce Stores

Bairnsdale, Victoria

constitutioned and properly developed breeding stock kept under good conditions.

An Incorrect Notion.

The popular notion that chickens die in the shell for want of moisture at hatching time is altogether incorrect.

When chickens are slow in coming out and the yolk is only partly absorbed, which is another evidence of weakness, drying out takes place, together with adherence to the shell, and toughening of the membrane surrounding the chicken, all leading to the notion that want of moisture is the trouble, whereas it is the weak-

ness of the chicken, which has failed to hatch before equalisation of the surrounding moisture and air has taken place. This has left the skin and shell dry before the chick has emerged; but in these cases no amount of applied moisture can enable such to hatch out normally strong chickens.

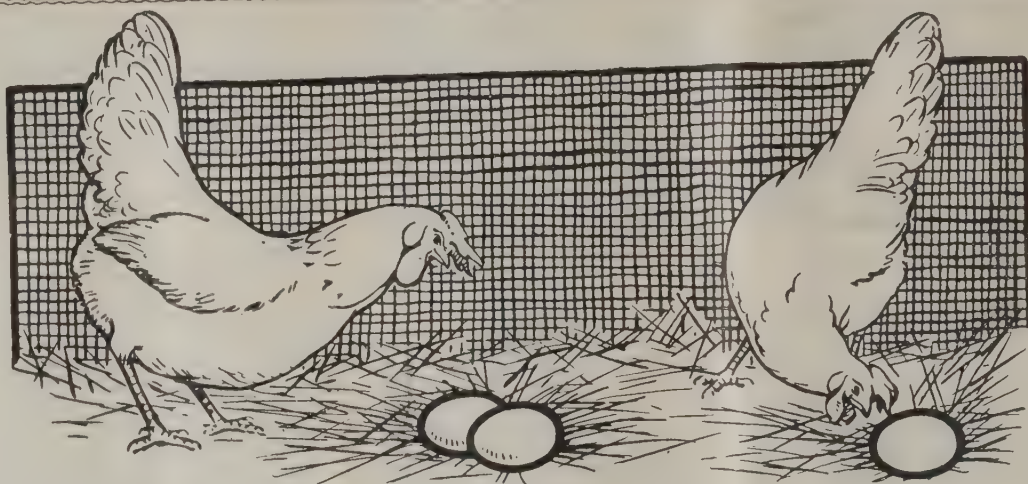
BEEES IN DROUGHT TIME.

Effect on the Economy of the Hive.

It is not very often that serious drought conditions occur in the coastal area, with its high average rainfall, but this season there has been a prolonged stretch of dry weather, and, to make matters worse, in many cases serious bush fires have destroyed much of the flora. It is anticipated that very little surplus honey will be produced on the coast this season, and this, combined with the off season inland, will show a low average production over the State generally. The market, which has been in a glutted condition during the past few seasons (writes the Senior Apiary Instructor of the N.S.W. Department of Agriculture), will no doubt be relieved during the coming winter.

There are interesting aspects of the economic conditions found in the hive during drought periods. As the adverse weather begins to have effect on the flora, and consequently the food supplies of the bees, the brood-rearing is gradually reduced to effect economy in the stored food. Further economy is effected by the worker bees destroying the drones. The whole working force will reserve its vitality by resting as much as possible, and very little useless searching in the fields for supplies is evident. The colonies eventually arrive at the stage where a minimum amount of brood-rearing to keep up the population is carried on, the smallest quantity of stores being consumed, and as full as possible a reserve of vitality (which means lengthened life) is effected. Even where there is an ample store of food in the hive we generally find that the economic conditions are noticeable, and they are intensified where there is a shortage of stores, in which case, if the apiarist does not attend to it, a complete cutting out of brood-rearing may occur.

At Wauchope Government Apiary it has been necessary to keep a close watch on the colonies; in some cases the bees were found to be practising economy to too great an extent, and a little stimulating feed was given to induce sufficient brood-rearing to keep up the population. It is not a



Big Demand for Fresh Eggs

How to take advantage of it

EVERY year with the approach of winter comes the same old demand—"Fresh Eggs." What an opportunity it is for profits to the Poultry Farmer. It is the best period of the year for monetary returns. Yet, while admitting this, how many poultry keepers are in a position to take advantage of it? There is only one way in which to do it, and that is to have your fowls laying regularly. Sounds platitudinous, doesn't it? It would be worse

than that if there was no definite and assured means of naturally inducing your fowls to lay. Whatever your beliefs may be; no matter how sceptical you may feel, just take us at our word and put Karswood Poultry Spice to the test. Thousands of poultry farmers and backyarders in Australia have made the test with results similar to that so enthusiastically disclosed in the following testimonial:—

It increases the Egg Production

Dear Sirs,—

I have been a user of Karswood Poultry Spice for some time, and cannot speak too highly of it, both as a tonic and egg producer. I have made several experiments with this Spice, and am convinced that it increases the egg production, by a big percentage. A short time ago I had a flock of 80 pullets laying nicely, but was not at the time using your Spice, owing to being unable to obtain it locally. A very severe change of weather came on, with the result my pullets practically stopped laying. I immediately obtained a supply of "Karswood," with the result that the whole flock was again in full swing within 3 weeks. I think the best recommendation I can give Karswood is by stating that I will never be caught again without a supply on hand.

You are at liberty to use this as you wish.

(Signed) (Miss) J. M. FOWLES,
Yarragon.

Make this Test

Go to your local grocer, storekeeper, or produce dealer. Get a 1/- packet of Karswood Poultry Spice, and give it to half-a-dozen of your birds, in accordance with the directions on the packet. Do not expect immediate results—Karswood works naturally, not suddenly. It takes at least a fortnight to produce results, but they are good and sure.

Supplies

"Karswood" Poultry Spice is obtainable at all wholesalers and stores at the following standardised prices:—

½lb. packet	Price, 1/-
1lb. packet	" 2/-
7lb. tin	" 13/-
14lb. tin	" 25/-
28lb. tin	" 48/-

wise plan to overdo the stimulation, especially where pollen is on the scarce side. Efforts were directed toward holding the colonies until a change in the weather, and good rains allowed some improvement in the conditions.

Selling Apples by Movies.

A feature of the advertising campaign of the Associated Growers of British Columbia, Vancouver, is a series of motion pictures to be shown in fifteen cities of Western Canada during the period when the association is marketing the 1926 Apple crop.—"Citrus Leaves."

Clifford Barnsbee

Export & General Agent
Display House, 323 Bourke Street
MELBOURNE

Sole Representative in Victoria
and Tasmania for
MORGAN & WILMINGTON,
Turbot Street Fruit Exchange,
Brisbane.

Reference.—Primary Producers'
Bank of Australia.

B. P. B.

B. P. BROADBENT,

City Market, Sydney.

Reference.—E. S. & A. Bank,
Haymarket.

Also "Elephant" Brand Spray,
Blackburn Casemaker Pty. Ltd.,
and Wrapping Paper.

Agencies in

Covent Garden, London, and
Germany.

'Phone: Central 1837.

Cables—"Finson," Melb.

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and
— economical on the market —
We manufacture a complete range
— of Sprays for the Orchardist —
including Arsenate of Lead (paste
and powder), Lime Sulphur, Red
Spraying Oil, Copper Soda Mixture,
Benzole Emulsion, Spray Spreader
etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES

Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

The "Bungalow" brand of seeded Raisins, prepared by W. A. Blake Pty. Ltd., of 252 City-road, South Melbourne, is a credit to the proprietors. The Raisins are seeded, compressed into 1lb. blocks, wrapped and enclosed in neat cartons, all under absolutely hygienic conditions, the Raisins being at no stage touched by the hand. The increasing use of "Bungalow" products is the test of their popularity.

THE NEW "CLOUDFORM" DUST BOOK.

We have received from Messrs. Gibbs, Bright and Co., 27 Grenfell-street, Adelaide, a copy of the new "Cloudform" Dust book, which describes the methods for prevention of fungus diseases and eradication of insect pests on fruit trees, vines and vegetables by means of the "Cloud-form" Dusts.

The dusting method of pest control has now become fairly widely known, and possesses certain advantages over the older methods. It is stated that the same materials are used in dusting as in liquid spraying. The dry materials are blown on the trees instead of being put into water to be sprayed on to the plants. Dusting should be done for preference when the air is calm. Suitable times of application are discussed, temperature, etc., and the best methods of working in orchards or with individual trees, and for vegetables.

In the manufacture of "Cloudform" dusts, advantage has been taken of the scientific research work and practical experience of growers in countries where dusting has superseded liquid spraying. The insecticides and fungicides used are fundamentally the same for dusting as for spraying. Arsenate of lead is the active ingredient embodied in all dusts for chewing insects. This material ranks higher in efficiency than any other for chewing insects; it also has the distinct advantage of being quite harmless to plants. Copper and sulphur are our best known fungicides, and these materials are used where the object is to prevent the development of mildew and fungi. Sulphur in varying forms is also a valuable insecticide, and is particularly deadly to the red spider. For oidium on vines sulphur is an ideal material, but it has no value against downy mildew.

"Cloudform" Dusts are so fine in texture that 40,000 particles can be placed on a square inch of surface without a single granule lying on top of another.

Special sections of the book (which may be had free on application to Messrs. Gibbs, Bright and Co.), deal with the treatment of Apples and Pears, stone fruits, citrus fruits, vine fruits, Tomatoes, Potatoes and vegetables. Descriptions are also given of the "Niagara" Duster Guns for applying the dusts.

The soundest stock: A stock of sound commonsense.

W.A. FRUIT REPORT.

To End of February.

During the month all the seasonal fruit has been well supplied. Some of the Apples were rather immature and brought low prices, but towards the end of the month well matured, highly-colored Jonathans appeared, and met with ready sale.

Williams Pears were at times rather over-supplied, and prices for low quality lines were very low; good fruit realising from 4/- to 6/6, whilst over-ripe lines brought as low as 2/- per case.

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

T. STOTT & SONS

Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

Grapes have been heavily supplied, and ranged from 4/- to 10/- per case, according to quality. An Ample supply of Passion Fruit and Japanese Plums was available.

The climatic conditions were very favorable to the ripening of Grapes. The harvesting of the Currant crop is nearing completion, and the early ripening fruit is now being processed. The yield of dried Grapes should be in the vicinity of one ton per acre.

South Australia

Crop and Market Notes :: Irrigation Commissioner's Report

SOUTH AUSTRALIAN NOTES.

Short Supplies and Good Prices.

It is rarely that South Australia has such a light crop of fruit as we have this season. No sorts have been plentiful except perhaps the later Peaches, and canners seem to be willing to take them in larger quantities than usual, owing to shortage of Pears and Apricots. The heavy wind storms experienced in Pear growing districts did much damage, and thousands of cases of Pears were lost. The very severe heat wave (it was quite a billow) did immense harm to Grapes, Figs, and Plums.

Minister of Agriculture (Hon. T. Butterfield) and pointed out the great danger incurred. The Minister expressed sympathy, but thought entire prohibition would be difficult, but that a higher percentage of inspection must be made. He promised to let the Association know his decision very soon.—W. J. Kimber, Sec. Fruit-growers' and Market Gardeners' Association.

S.A. IRRIGATION AREAS.

Work of the Commission.

THE THIRD ANNUAL REPORT of the South Australian Irrigation Commission for the year 1925-26, indicates that the Irrigation Act was amended during the year to incorporate the recommendations of the Royal Commission regarding adjustment of rent, water rates and amounts charged for improvements, including consolidation of advances to discharged soldiers.

A thorough enquiry into the liabilities of soldier settlers is being conducted, with a view to ascertaining means to make the settlers successful.

The total area of land administered by the Commission is 282,634 acres, comprising 51,759 acres of high irrigable land, 9,676 acres of reclaimed swamp land, 54,463 acres of non-irrigable high land, and 166,736 acres of land reserved for commonage and other purposes. A large portion of the last-mentioned area is subject to inundation.

On July 1, 1925, areas of 23,115 acres of irrigable and reclaimed swamp land and 27,916 acres of non-irrigable land were leased. During the year additional areas of 839 acres of high irrigable, 2,047 acres of reclaimed swamp, and 2,375 acres of non-irrigable land were allotted. The total areas leased on June 30, 1926, were 24,706 acres of high irrigable and reclaimed swamp land, and 30,047 acres of non-irrigable land.

During the year 63 blocks were allotted to soldiers, and 93 to civilians. Of these, 21 irrigable blocks and 63 reclaimed blocks represented new settlers. Of the Jervois Irrigation Area, gazetted in August, 1925, the 53 groups of blocks were allotted. There is still very little demand for fruit blocks. The number of planted blocks maintained by the Commission on June 30, 1926, was 48; 21

of these have since been allotted, mostly to present settlers requiring more land.

Work in progress or completed during the year included the drainage of irrigated land, water supply and maintenance of pumping plants, installation of modern crude oil engines at pumping plants, notably at Waikerie and Mypolonga, and consideration of proposals for electrification.

From statistics given (approximate only), it is noticed that the total irrigable area permanently planted is 18,131 acres, comprising vineyards (12,814 acres), orchards (2,295 acres), Citrus (2,023 acres), and Lucerne (1,498 acres). The variety of vines and fruit trees, and particulars as to the ages of same, are shown in the statement.

The totals of the figures given in the statement in regard to the production from the orchard lands and vineyards are as follow:—

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

Dried Fruits.—Sultanas, 2,604 tons; Currants, 1,877 tons; Lexias, 814 tons; Malagas, 79 tons; Apricots, 225 tons; Peaches, 129 tons; Nectarines, 28 tons; Pears, 46 tons; Plums and Prunes, 8 tons; Figs, 2 tons.

Distillery and Fresh Fruit.—Sultanas, 85 tons; Currants, 1,136 tons; Doradillos, 7,704 tons; Gordos, 5,545 tons; other varieties, 507 tons; total, 14,977 tons.

Fresh Fruit.—Apricots, 4,097 cases; Peaches, 7,994 cases; Nectarines, 1,919 cases; Pears, 7,621 cases; Plums and Prunes, 485 cases; other varieties, 2,450 cases; Oranges, 127,361 cases; Lemons, 1,500 cases.

Swamp Areas.—The returns supplied by the settlers show that on the swamp lands 1,262,166 galls. of milk were produced, equal on a 4 per cent. test (the estimated average of the district) to 504,866 lbs. of butterfat, the value being given at £54,084, or about 10d. per gallon of milk.

T. J. POUPART Ltd.

Covent Garden, London, W.C.2
and 3 Love Lane, Eastcheap, E.C.2

The Premier Firm of Fruit
Salesmen in Great Britain

Sale by Private Treaty only (Gives best results)

Commission the exclusive basis (purchase propositions cannot be considered)

Advances offered to cover freight and accessory charges

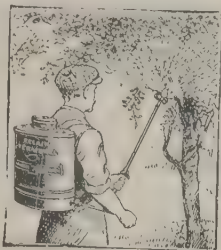
Victorian Representative:

FRED. J. ANDREW

416 Little Collins Street, Melbourne

It is many years since the growers got such a high price as 7/- for Plums, and factories seem anxious to get them. Quinces, which are usually about £4 per ton, are now bringing £8. Tomatoes are also giving growers good returns, as table Tomatoes have not been below 7/- per case, and sauce Tomatoes are selling freely at 3/6. These prices are not being obtained, simply because of short supply, but also largely by efforts of committees appointed by the Fruitgrowers' and Market Gardeners' Association.

Fruitgrowers are perturbed at the importation of Apples from Western Australia, as it is possible that the Mediterranean fruit fly might be introduced in them. The Association arranged a deputation consisting of growers of Peaches, Apricots, Oranges and other fruit, which waited on the



The "Eclair" Spraying Fruit Trees.

FOR

SPRAYING, LIMEWASHING AND DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL
Before Placing Your Order ASK A FRIEND
WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

— TO TELL YOU HIS OPINION OF IT — ACTUAL USE IS THE BEST TEST —

The types made include the following:—

HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS

BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED HAND POWER SPRAYER,
high pressure model (220 lbs. per square inch)
CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS

POWDER BELLOWES
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS
3 H.P. MOTOR SPRAY OUTFITS

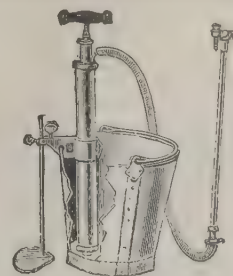
LIQUID CAPACITIES $1\frac{1}{2}$ pints to 88 gallons.

PRICES FROM 4/- each.

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON E.C.2



The total value of livestock is estimated at \$69,371.

The rainfall during the year was generally below the average, and the drying season very favorable. A late frost in October, 1925, did a certain amount of damage, particularly to Sultanas, in the Berri area, Currant vines and Apricot trees being also affected. Generally, throughout the areas, the vineyards and orchards were free from disease.

VICTORIA

DIAMOND CREEK SHOW.

The 43rd Annual Show of the Diamond Creek Horticultural and Fruit-growers' Association was held on March 12, being officially opened by Mr. W. H. Everard, M.L.A., who congratulated the Society on the wonderful display.

Although the display did not maintain the high standard of previous years, owing to the unfavorable season, the quality of the champion specimens was very high, and all exhibits were particularly clean and free from signs of disease. Displays of vegetables and flowers were also particularly fine.

There was keen competition for the championship for eight varieties of Apples and four of Pears, Mr. Arthur Collins securing 1st and 2nd places, and G. J. Middleton (President of the Society), third. The varieties in the winning exhibit were:—Apples—Jonathan, Rome Beauty, Red Rome, London Pippin, Granny Smith, Stewart's Seedling, Tasman's Pride and Statesman; Pears—Josephine de Malines, Packham's Triumph, Winter Cole and

Beurre Bosc. G. T. Herbert was successful in the classes for three varieties of Apples, and in packed trays of Apples and Pears.

Pear exhibits were not up to the usual standard in either number or quality. Mr. R. H. Lawrey was the most successful exhibitor, securing nine first and three seconds. His winning collection of Pears included Winter Cole, Laurence, Josephine, Beurre Bosc, Winter Nelis and Packham's Triumph. Among other successful exhibitors were:—

Albert E. Collins, H. Newton, J. Cox, J. Parker, W. J. Miller, A. Keenan, A. N. Jones, P. J. Lawrey, Pryce May, C. C. Lawrey, A. Upton, R. J. Lorimer, W. H. McCartney, J. W. Grimshaw.

—N.S.W. Irrigation Commission.—

We have received a copy of the report of the Water Conservation and Irrigation Commission for the year ended June 30, 1926, to which further reference will be made in our next issue.

SOMERVILLE SHOW.

THE 31st ANNUAL SHOW of the Somerville Fruitgrowers' Horticultural and Agricultural Association, held on Saturday, March 12, was a complete success, despite the unfavorable season. Entries were not quite as numerous as in previous years, but it seemed that growers had made a special effort that the quality should be well up to standard, and the displays of fruit and vegetables were excellent. An exhibit of cased Apples by the Peninsula Co-op. Fruit-growers' Association Ltd., was particularly attractive. The silver teapot, presented by the Hon. A. E. Chandler, M.L.C., for a collection of four varieties of Apples and four of Pears, was won by Mr. J. Firth, who was also successful in several other lines. The fruit-packing competition for school children attending the packing classes organised by the Department of Agriculture, was won by Doreen Firth, with Myrtle Iles second; and the packed cases demonstrated the value of this work.

Principal prize-winners were:—J. A. Monk, T. W. White, J. D. Grant, G. A. Grant, Two Bays Nurseries Co. Pty. Ltd., H. L. Vines, Barber Bros., J. C. McLean, Walter Young, J. E. Simpson, A. Sage, F. W. Roper, J. Hutchinson and Sons, G. de Bernardie, G. E. Shepherd, Jr., T. W. Brunning, Caldwell Bros., C. and T. Grant, W. P. Coleman, A. W. Philbrick, S. Scot. S. H. Hawken, J. Brunning and Sons. Bert Murray, Richard Philbrick, Audrey West, A. W. Hawken, L. E. Thornell, L. M. Watt, F. W. Roper, J. Shelton, C. T. Iles.

FOR SALE

Imported Softwood Dump Case Ends

JUST LANDED. Buyer does not
require them

$14\frac{1}{2}$ in x $8\frac{3}{4}$ in x $1\frac{1}{2}$ in

Dressed two sides at 6d per pair
Nett Rails, Melbourne

C. H. MILLER

Hardware House

386 Post Office Place, Melbourne
Telephone Central 11552

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS.

Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.

VICTORIA.

Melbourne.

Fred. J. Andrew, 416 Little Collins St., Melbourne.
Clifford Barnsbee, 323 Bourke St., Melbourne.
Producers' Dist. Society, Western Market.
Cave, F., & Co., Melbourne.
Davis, J., Western Market.
Fruitgrowers' Depot, 471 Flinders Lane, Melbourne.
Lister, G., Western Market.
Millis, A., & Sons, Western Markets.
Mills, J. E., & Co., Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L., Little Bourke St.
Ross, J. W., Western Market.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.
J. Younger, Melbourne.

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Finlayson & Son, Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters.
and at London.

Lancaster.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Auckland.

Turners and Growers Ltd.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.

GREAT BRITAIN.

London.

Da Costa, Gerald, Covent Garden.
M. Isaacs & Sons Ltd.
Margeson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Pask, Cornish & Smart, Covent Garden.
T. J. Poupart Ltd., Covent Garden.
Ridley, Houlding & Co., Covent Garden.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Exchange.

Hull.

White & Son Ltd.

Coventry.

Rowell Bros. & Davis.

Manchester.

Manchester Ship Canal: Australasian Representative, Capt. W. J. Wade,
8 Bridge St., Sydney, N.S.W.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Astheimer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hanburg.
Fruchthandel Gesellschaft, Fruchthof.
Stier, Aug., Fruchthof, Reips J. R. Mills & Co., Bank House, Melbourne.
Timm & Gerstenkorn.

BRITISH MARKETS.

Australian Fruit Arrives.

London (16/3/27).

South and West Australian Pears shipped in the steamer "Jervis Bay" have arrived in variable condition, and some are rather over-ripe. Trays ranged in price from 3/6 to 6/-. Three-quarter size cases brought 8/6 to 12/6, and half boxes 7/- to 12/-. South Australian Grapes ex the same steamer, were rather immature, but realised 17/- to 18/- a three-quarter size case.

London (18/2/27).

Messrs. T. J. Poupart Ltd., Covent Garden Market, report an improved demand for fruit. American and Canadian Apples are rather weak, culinary varieties particularly. Considering the comparatively heavy arrivals, South African fruits, mainly Peaches, Nectarines, Pears and Plums, with smaller quantities of Grapes, Pines and Mangoes, are selling fairly well.

Liverpool (16/2/27).

Messrs. J. C. Houghton and Co. report that prices for American Apples have eased all round, mainly owing to the condition of the fruit. A handful of Ontario Apples were of good quality, G. Russett making 21/6 to 35/- barrel, and Baldwins 17/3 to 25/-. Prices for American box Apples from Oregon and Washington, ran as follows:—Newtown, 9/9 to 14/9; Winesap, 10/6 to 14/-; Jonathan, 12/- to 14/6.

Pears.—Winter Nelis are not doing any good; many are coming unsound, and there is not much inquiry. South African Pears are beginning to come in and will make serious competition before long. A few Keiffers auctioned were poor. Oregon and Washington—Winter Nelis, box, 9/9, 14/-; American—Keiffer, barrel, 14/-.

Arrivals of American and Canadian Apples for the week totalled 51,960 barrels and 38,777 boxes; Pears, 416 barrels and 2,541 boxes.

GOOD PRICES FOR NEW ZEALAND APPLES.

London (24/3/27).

The New Zealand Apples landed from the steamer "Corinthic" are turning out in fair condition. A few have been frozen, and some Gravensteins are very soft and "wasty." Further sales of Gravensteins have been made at from 12/- to 14/- a case, exceptional to 17/-. Willie

Sharps realised 11/-; Alfristons, in excellent condition, 11/6 to 15/-; Worcester's Pearmain, 14/- to 18/-; Cox's Orange Pippin, 26/- to 28/-; a few sold privately at 35/- to 55/-, and a few repacked trays realised prices equal to 60/- a case.

AUSTRALIAN MARKETS.

New South Wales.

Sydney (22/3/27).

Mr. F. Chilton, City Fruit Markets, Sydney, reports:—

Queensland Fruits.—Bananas, 18/- to 32/- per case; Pines, Smoothleaf, 7/- to 16/-.

N.S.W. Fruits.—Bananas, 18/- to 36/- per case; Lemons, 12/- to 20/- per bushel case; Oranges, second crop, 8/- to 16/-; Apples, green cookers, 10/- to 14/-; Jonathan, etc., 10/- to 17/-; G.S., 12/- to 16/-; Pears, P.T., 10/- to 14/-; Quinces, 6/- to 10/-; Passions, 10/- to 18/- per half case; Persimmons, 3/- to 5/-; Grapes, Black Muscat, 10/- to 15/-; Cornichon, 5/- to 8/-; White Muscat, 6/- to 9/-; White Sherry, 5/- to 7/-; Tomatoes, 2/6 to 6/-; Cucumbers, 1/6 to 4/-; Rock Melons, 4/- to 5/- per bushel case.

Victorian Fruits.—Pears, W.B.C., 10/- to 15/- per bushel case; Peaches, 6/- to 12/-.

Tasmanian Fruits.—Apples, Jon., 12/- to 16/- per bushel case; F.C., 10/- to 14/-; D.C., 10/- to 14/-; C.O.P., 10/- to 13/-; Alx., 8/- to 12/-; W.P.M., 11/- to 15/-; Alf., 8/- to 12/-; Pears, G.B., 5/- to 7/- per half case; B.B., 5/- to 6/-; W.C., 5/- to 7/-; Duchess, 4/- to 6/-; B.D.C., 5/- to 6/-.

Owing to a shortage of all classes of choice Apples, prices have advanced considerably, particularly for red sorts. Pears are well supplied from Tasmania and values have declined in consequence.

There is an improvement in the demand for good quality Pines, but a number are still coming forward affected with "water blister."

Victoria.

Melbourne (23/3/27).

Following are the prices ruling at the Western Market:—Grapes, Waltham Cross, special, 12/-; others, 5/- to 8/-; Gordos, special, 12/-; others, 4/- to 6/-; Red Prince, special, 7/- to 9/-; others, 4/- to 6/-; Black Prince, special, 8/- to 10/-; others, 4/- to 6/-. Market heavily supplied. Weather dull. Poor demand for other than special Grapes. Tomatoes, best, 6/-; others, 4/-; Peaches, yellow flesh, 4/- to 6/-; Pears, Beurre Bosc, 11/- to 12/-; Howells, 8/- to 10/-; Kieffer's Best, 6/- to 7/-; eating Apples, 8/- to 11/-; special, 12/- to 14/-; cooking Apples, special, 11/-

to 12/-; first quality, large, 8/- to 10/-; medium, 5/- to 6/-; Passion Fruit, special, 16/- to 18/- per bushel case; medium quality, 7/- to 10/-; Lemons, medium size, first quality, 20/- to 25/-; Oranges, choice, 30/- to 35/-; imported, 45/- to 50/-; Pineapples, Queens, 10/- to 12/-; Bananas, special, 28/- to 30/-; choice, 24/- to 27/-; standard, 18/- to 22/-.

South Australia.

Adelaide (19/3/27).

Apples (eating), 12/- to 14/- per case; do. (cooking), 10/-; Bananas (Fiji), 30/- to 32/-; Blackberries, 4/- per dozen lb.; Figs, 10/- to 12/- per case; Grapes (dark), 10/-; do. (white), 10/-; Lemons, 14/- to 16/-; Melons (pie), 6/- per cwt.; do. (sweet), 8/-; do. (water), 5/-; Nuts (Almonds), 1/- to 1/2 per lb.; Passion Fruit, 24/- to 26/- per case; Peaches,

past week:—Apples, Lady Snows, choice, 8/3 to 8/9; good, 6/- to 7/3; fair, 5/-, 5/9; small and place, 3/- to 4/6; St. Law., choice, 8/- to 8/8; good, 6/- to 7/6; soft and pale, 3/6 to 5/-; C.O.P., choice, 8/- to 8/3; good, 6/- to 7/-; medium and small, 3/6 to 5/-; N.Y.P., good, 6/- to 7/-; fair, 5/- to 5/9; marked lots, 3/6 to 4/6; Jon., fair, 6/- to 6/6; medium, to 5/-; Alf., good, 6/- to 6/6; fair, 5/- to 5/6; R.P., good, 6/- to 6/3; medium, 5/- to 5/6; small, 3/6 to 4/3; Alex., 4/- to 5/6; P.A., 4/6 to 5/6; W.P.M., good, 5/6 to 6/-; medium and soft lots, 3/6 to 5/-; C.A., fair, 4/- to 5/-; D.C., fair, 5/- to 5/9; Pears, W.B.C., good, 7/- to 8/3; medium, 5/- to 6/-; L.B.J., fair, 5/4 to 6/-; medium and small, 3/- to 4/6; G.B., medium, 4/6 to 5/6; B.D.C., fair, 5/- to 6/-; B.B., good, 6/9 to 7/3; medium, 4/- to 5/10; Fertility, 3/- to 3/6 per case; Peaches, best, 6/- to 7/-; medium and small, 3/- to 5/- per half case; Plums, 2/6 to 4/-; Tomatoes, dull, best, 5/6 to 6/6; medium, 4/- to 5/-.

Western Australia.

Perth (16/3/27).

Apples, Jonathan, flats, 3/- to 9/6; dumps, 4/- to 10/6; Cleopatras, flats, 3/- to 6/-; dumps, 4/- to 9/-; Dunn's Seedlings, flats, 3/- to 6/-; dumps, 4/- to 7/-; Pears, Bartlett, flats, 6/- to 11/-; others from 2/-; dumps, 17/6 to 14/-; Oranges, flats, 9/6 to 14/3; dumps, 10/- to 18/6; Lemons, flats, 7/- to 13/- (green, from 3/-); Passion Fruit, flats, 7/- to 12/-; Grapes, open, 7/- to 11/-; others, from 5/-; Peaches, flats, 4/- to 12/-; Quinces, dumps, 4/6 to 6/6; Plums, prime, flats, 20/-.

New Zealand.

Dunedin (11/3/27).

Messrs. Reilly's Central Produce Mart Ltd. reports full supplies of fruit of all descriptions. Tomatoes have dropped in price; Grapes are back to 1/3 lb. Prices are as follow:—Local Grapes, 1/3, 1/6; Oamaru, 1/1, 1/4; Christchurch, 1/3; Blackberries, 6d., 8d.; Plums, choice desserts, 3d., 5½d.; Jam Plums, 2d.; Nectarines, choice, 5d.; mediums, 3d., 4d.; Peaches, jam, 3d.; desserts, 4d., 6d.; Pears, choice desserts and bottling, 2½d. to 4d.; cooking, 2d.; Walnuts, 10d.; Peanuts, choice, 5d.; Queen Pines, 24/6; N.Z. Passions, halves, 13/-; Apples: Cox's, 9/-, 11/-; Delicious, 10/-, 12/-; Scarlet Pearmain, 8/6; Worcesters, 8/-, 10/-; Dunn's, 7/-; Alfristons, 7/6; Mobb's Royal, 6/-; Alexandras, 6/-, 7/-; Quinces, 6d.; Bananas, ripe, 35/-; Raratongans, ripe, 30/-; green to land, 20/-; Lemons, Californians, 300/360's, Mission brand, 40/-; Oranges, American Navels, 50/-; Grape-fruit, 30/-.

MARKET PROSPECTS.

A Canadian View.

The Fruit Branch of the Canadian Department of Agriculture, in a report, dated 10th February, refers to a cable received from the Canadian Fruit Trade Commission in London (J. Forsyth Smith), which states that Australian and New Zealand Apple bookings for the United Kingdom markets during the 1927 export season, indicate prospects for 1,775,000 boxes, as compared with 3,462,000 boxes in 1926. In recent years heavy importations from Australia have caused serious competition with Canadian Apples arriving on the British market during April and May. However, with Australian imports during the coming season reduced approxi-

'Phone Central 8479

F. W. Vear

Fruit Importer
and Exporter

COMMISSION AGENT

49 WILLIAM ST.,
MELBOURNE, VIC.

Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.

Account sales with cheque daily.

mately 50 per cent. of last year, there is an optimistic outlook for late arrivals of Canadian Apples.

FRUIT FOR TASMANIA.

Undersized Cases Used.

The Superintendent of Horticulture (Mr. J. M. Ward), is in receipt of a communication from the Department of Agriculture, Tasmania, pointing out that Peaches from Victoria are being received in Tasmania in undersized cases, which, instead of being 6 in. wide, vary from 5½ in. to 5½ in. in width. Such contraventions are being dealt with under the Tasmanian Cases Act, and fruit so received is being repacked into standard cases.

Mr. Ward stated that the Tasmanian standard cases are similar to those adopted by Victoria, and to avoid the expense of repacking in Tasmania, growers and shippers, in their own interests, should pay strict attention to the size requirements.

COVENT GARDEN,
LONDON

Ridley, Houlding & CO.,

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt
account sales returned.
Correspondence invited.
Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

7/-; Pears (eating), 10/- to 12/-; do. (cooking), 6/-; Pineapples, 16/- to 18/-; Quinces, 5/-; Strawberries, 1/- per lb.

Queensland.

Brisbane (19/3/27).

Lemons, prime, 4/- to 5/-; others, 3/- to 4/- a half case; Limes, 3/- to 5/-; Pineapples, smooth leaf, 4/- to 7/- a case, 1/- to 4/6 a dozen; rough leaf, 1/3 to 8/6, 8/- to 13/- a case; Passion Fruit, 5/- to 10/-; Stanthorpe Grapes, black, 3½d. to 5d. a lb.; white, 2d. to 4d.; Muscatels, 4d. to 6d.; Apples, 8/- to 15/-; cooking Apples, 8/- to 13/- a bushel case; Papaws, 2/6 to 7/-; Persimmons, 2/- to 4/- a half case; Quinces, 8/- to 10/- a case; Mandarins, 10/- a half case; navel Oranges, 24/- a case; Custard Apples, 5/- to 10/- a half case; Oranges, 18/- a bushel case.

Tasmania.

Hobart (19/3/27).

The following prices were obtained at the city fruit markets during the

Queensland

Seasonal Notes :: A Cheap Apple Store :: Banana
Borer Beetle :: The C.O.D.

ORCHARD NOTES FOR APRIL.

Coastal Districts.

Marketing Citrus Fruits.

Many growers fail to realise the very important fact that the success of fruitgrowing does not depend merely on the proper working and management of the orchard, so essential for the production of a good crop of high-class fruit, but that the manner in which the fruit is handled and placed on the market is of even greater importance. In no branch of fruit culture is this more evident than in the case of citrus fruits, as no fruit pays better for the extra care and attention necessary to enable it to be marketed in the best possible condition. Every season there is more or less loss in the consignments sent to the Southern markets, the percentage depending mainly on the weather conditions, the loss in a wet year being much heavier than that in a dry year.

A very large percentage of the loss is due to what is known in the trade as specking—viz., a rotting of the fruit caused by a mould fungus, and this loss can be prevented, provided necessary precautions are taken.

In the first place, growers must clearly understand that specking cannot occur on perfect fruit, the skin of which is free from injury of any kind. The fungus causing specking can only obtain an entry into the fruit through an injury to the skin; it will thus be seen that the remedy for specking is to take every possible care not to injure the skin of the fruit in any way.

The grower must learn so to gather,

handle, and transport the fruit from the orchard to the packing-shed that it does not receive the slightest injury, and further, that when it has reached the packing-shed, it must be carefully placed in shallow bins or on trays, and be exposed to the air for at least seven days, so that the surplus moisture in the skin may be removed, and the skin thus becomes toughened and less easily injured. This drying of the skin is known as "sweating," and during the time the fruit is being sweated it should be kept under observation, and all fruit showing signs of specking or injury from fruit flies, sucking or boring insects, mechanical injury or bruising, should be removed.

In order to prevent injuring the skin when gathering, all fruit must be cut and not pulled. Gloves should be used to handle the fruit, and when cut it should be placed in padded baskets or other suitable receptacles. Any fruit that falls or is injured in any way should be rejected, as it is not fit to send to a distant market. At the same time, if the injury is only slight, it can be sent to a local market for quick sale.

For Southern markets only perfect fruit should be selected, and further, it must be graded for size, colour, and quality, and properly packed, only one grade of fruit being packed in a case. The cost of cases, freight, and marketing is now so high that only the best fruit will pay to send to the Southern States, and even the best fruit must be properly graded and packed in order to produce the best returns.

Cultivation.

All orchards, vineyards, and plantations not thoroughly clean should receive immediate attention, as from now till the next rainy season, the ground must be kept in a thorough state of tilth and free from weeds in order, in the first place, to retain moisture in the soil, and, in the second, to enable birds, ants, and predaceous insects to get at and destroy the pupæ of fruit flies and other pests harbouring in the soil.

Banana and Pineapple plantations must be put into good order, and kept free from weed growth.

Preparing for Planting.

Land to be planted with trees should be got ready, as, if possible, it is always advisable to allow newly cleared land time to sweeten before planting.

Strawberries can still be planted, and the earlier plantings must be kept well worked and free from all weeds in order to get a good crop of early fruit.

Scrub land intended for Bananas can be felled now, as there will be little more growth, and it will have ample time to dry off properly in time for an early spring burn. Do not rush scrub falling, as it is work that pays for extra care. Lopping will improve prospects of a successful fire.

Keep a keen lookout for fruit flies, and on no account allow any fallen fruit of any kind to lie about on the ground.

The advice given with respect to the handling and marketing of citrus fruit applies equally to Custard Apples, Pineapples, Bananas, and other fruits. In the case of Bananas handled by the Committee of Direction of Fruit Marketing, grading is now compulsory, and it will undoubtedly tend to stabilise the market for this fruit.

Granite Belt and Tablelands.

Storing Apples.

Practically the whole of the fruit crop will have been gathered by the end of March, but several of the later-ripening varieties of Apples grown in the Granite Belt may be kept for a considerable time, provided they are free from fly or other pests and are stored under proper conditions. Varieties, such as Jonathan, can be kept for some months at a temperature of 31 to 32 degrees, and later varieties, such as Granny Smith and Sturmer, can be kept till Apples come again if stored at the same temperature. At the same time, although storing the fruit at this temperature under artificial conditions enables them to be kept for many months, the fruit can be kept for a considerable period, and marketed from time to time as desired, by storing it in a specially constructed Apple-house in or adjacent to the orchard where grown.

Such a store can be cheaply constructed in the side of a hill out of the soil of the district and slabs of timber. The soil will make excellent

SYDNEY:

Fruit Commission
Merchants Agents

S. & M. Greenberg

No. 1 Store
Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.
Victorian Shipping No. 42.

PROMPT RETURNS

GENUINE KUNDE

Budding & Grafting Knives

also Pruning Secateurs

NOW AVAILABLE

Prices on application to

L. P. ROSEN & SON

NURSERYMEN

EPHING - - N. S. Wales

pipe for walls, and the roof may be constructed of slabs covered with soil. Such a store can be kept at a very even temperature, and if the air is changed during cool nights—not frosty nights—the temperature can be reduced to a low point—low enough to keep the fruit in good condition for many weeks.

Drainage.

If there is any slack time in the course of the month, go over all surface and cut-off drains and put them in good order. Also, if during periods of heavy rain, soft or boggy spots have made their appearance in the orchard, do what draining is necessary, as badly drained land is not profitable orchard land, and the sooner it is drained the better for the trees growing upon it. Soft or boggy spots are frequently caused by seepage of water from a higher level. In this case a cut-off drain will be all that is necessary, but where the bad drainage is due to hard pan or an impervious subsoil, then underground drains must be put in. After draining, the land should be limed. Liming can be done now and during the following three months, as autumn and winter are the best times to apply this material.

Green Manuring.

When the orchard soil is deficient in organic matter (humus) and nitrogen, try the effect of green-crop manuring, planting the grey or partridge Pea and manuring the ground for this crop with a good dressing of finely ground island phosphate or basic phosphate.

When citrus fruits are grown in the Granite Belt and Tablelands, they should now be ready for marketing. If the land needs it, it should be given an irrigation, but unless the trees are suffering from want of water it is better to stick to the use of the cultivator, as too much water injures the keeping and carrying qualities of the fruit. — "Queensland Agricultural Journal."

BANANA BORER BEETLE.

Reward Offered for Remedy.

According to "Nicko's," the Banana Sectional Group Committee now offer a reward of £2,500 for an effective remedy for the beetle borer. The committee to investigate the remedies are Professor Goddard, Messrs. Veitch and Froggatt (Dept. of Agriculture), Edwards and Warland (growers) and Ranger (Committee of Direction).

Our greatest glory is not in never falling, but in rising every time we fall.—Confucius.

MORE CRITICISM OF THE C.O.D.

(To the Editor.)

Sir,—We are all familiar with the expression "Farmers are not good business men," and the results following the Queensland attempt to organise farmers by Act of Parliament certainly do not refute this charge.

It is, however, quite possible, that if the farmers had been permitted to run their organisation, instead of merely electing representatives to do the running, the results might have been as beneficial as they have been barren.

The initial move on the part of the C.O.D. of fruit marketing, was to fly into the face of the Federal Constitution by attempting to forcibly interfere with interstate trade, and a fatuous appeal to the High Court cost the fruitgrowers £3,000 in legal expenses.

The C.O.D. then launched out in the retail business and rapidly succeeded in accumulating a loss.

Then it widely advertised its intention to place fruit barrows on the Brisbane streets, and a glorious future was predicted.

Within three months, the losses on the venture made abandonment necessary.

Then another attempt (and a costly one) was made at the retail business, and this too, rapidly became too costly to retain.

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches: { Western Market
 { Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

Then, in order to encourage the consumption of fruit—so it was said—a stall was erected directly opposite to an existing local stall.

The inevitable result was the closing of the private stall, as the owner depended upon his profits, and not upon the levies drawn from the growers of the fruit sold!

The C.O.D. "swallowed the leek" by creating an absolute monopoly in the canned Pineapple trade by binding

the canners to sell to one southern firm only.

The prices were fixed in so far as the growers were concerned, but the "trade" could juggle prices just as they wished, and consequently growers were paid glut values, whilst the consumers paid "short" season prices. Then the C.O.D. admitted the wisdom of its critics by asking for, and obtaining, an amended "Act," which placed the power of veto with the growers.

Meanwhile, freights and production costs rose steadily, and to cap the lot, the C.O.D. is now called upon by the Council of Agriculture to collect £4,000 per annum from fruitgrowers for "administrative purposes, etc."

This not being sufficient of a drain on the growers, their elected representatives have decided to send the Manager of the C.O.D. to America (possibly to study the art of running fruit barrows) at an unknown cost.

At the last meeting of the Citrus Sectional Council—after being told by the Manager that they were £500 in debt to the C.O.D.—it was decided that as during the three years that the C.O.D. had been in existence, nothing had been done towards formulating a policy of any description, the Council refrain from again meeting for a period of 12 months. So much for the vaunted "Control" by the C.O.D.!

I have been closely associated with every co-operative effort made during the last 20 years, and the destructive element has invariably been the same—i.e., the success of those who saw the opportunities for personal gain and seized them with both hands; and, until growers do, in reality, control the spending of their hard-earned cash, co-operation will never be more than a good thing for the few, at the collective cost of the crowd.

Growers can control their business through their local Associations, with a subservient Central Executive, and by this means alone, can a majority rule be established.—Yours, etc.,

"CUDGEREE."

Queensland, 5/3/22.

PINEAPPLE LEVY REGULATIONS.

The period of operation of the Pineapple Levy Regulations, under the Fruit Marketing Organisation Acts, has been extended from January 25, 1927, to January 25, 1928. These regulations provide for a levy at the rate of 3d. per case of Pineapples, payable by growers to the Committee of Direction of Fruit Marketing, through agents.

PLANTING FRUIT TREES.

Pegging Out the New Orchard.

NOW IS A GOOD TIME to prepare for new plantings of fruit trees. As soon as the site has been decided, the first essential is to work the soil into the best possible friable conditions to receive the young trees. After thorough deep ploughing in the spring, subsequent cross ploughing, and (if necessary) subsoiling should be done in the autumn.

Where hard-pan exists, this must be broken up, to enable the roots to strike deeply and firmly into the subsoil. In the sandy-loam soils of the irrigation areas of the Murray and Murrumbidgee, this is particularly important.

The next operation is "pegging out," as a peg must be placed in the exact position each tree is to occupy. Altogether, about 160 pegs (split from palings, Pine posts, Bamboos or old box timber), each a foot long, will be needed per acre.

The distance between the rows will be decided on according to the habits of the trees being planted; for instance, Apricot trees should be planted 24 feet apart, as they grow into large trees, and should be given plenty of room to spread.

For pegging out, the use of two marked wires is necessary; ordinary No. 12 gauge fencing wire marked every 24 feet with paint, or blobs of solder, or adhesive tape will serve the purpose.

Fix a ring or loop at each end, then a solid stake can be driven through the ring at the base-line end, while a bar may be used for pulling the wire tight at the far end.

After measuring off 24 feet from fence or channel for a headland," run the wire out parallel to the fence and pull tight—this forms your "base line," and a peg should be placed at each mark on the wire.

To ensure straight planting, no matter what shape the orchard may be, it is absolutely essential to run the rows at right angles to this base line; all angular spaces can be filled up afterwards.

The easiest and only practical way to get a right angle on the base line is as follows:—First beg, borrow, or buy a chain tape (it's always handy), then at one end of your base line, at one of the 24 feet marks, drive in a stout peg level with the ground. Where the wire cuts the top of the peg, and right opposite the mark, hammer in a nail, which we'll call Nail B. Now measure from the nail along the wire exactly 6 ft., and drive in another peg with a nail, which we

will call Nail A, in the top—the nails A and B should now be exactly 6 ft. apart.

From Nail B measure 8 feet out from the base line, judging as near as possible a right angle with the eye—there drive in a nail peg (Nail C) in same manner as before.

To form a perfect right angle on the base line the nail pegs A and C should be exactly 10 feet apart—near enough won't do.

Numerous measurements and adjustments of Nail peg C (the only peg that must be moved) may be necessary to get the measurements right, but care and exactness in this makes the rest easy. The measurements should then be Nail A to B, 6 feet; Nail B to C, 8 feet; Nail A to C, 10 feet. This accomplished, the angle A B C is a right angle.

Now do the same thing on the other end of the base line.

By "sighting" through nail pegs B and C, a sight peg (a stake with newspaper or white rag tied round the top is best) should be placed at a

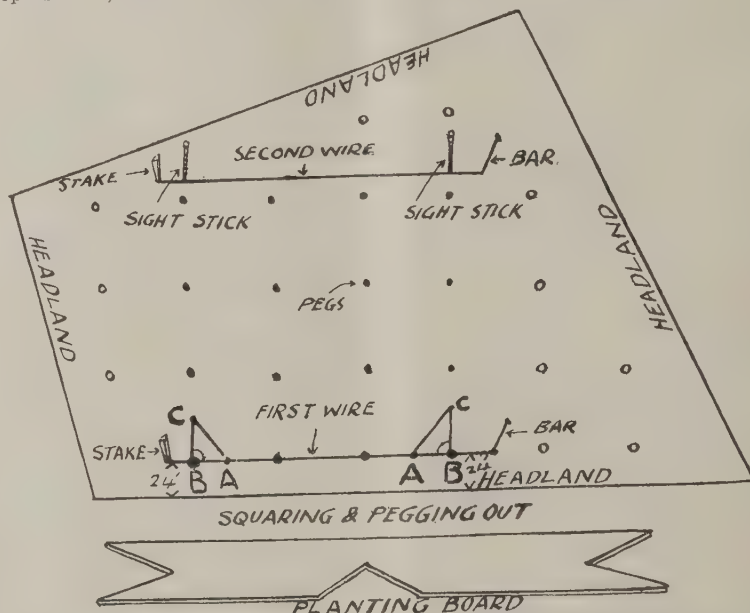
Time to Plant.

Citrus trees and evergreens may be planted after the first rains, while the ground is still warm. Deciduous trees should be planted from June to the end of August.

Before planting, examine the roots, and shorten the ends with a sharp knife, removing any broken or damaged roots. It is also advisable to cut the tops well back, so as to form a well-set head.

The Planting Board.

The use of a planting board simplifies the work of planting when a block has previously been pegged out. A piece of softwood, 3 ft. 6 in. x 4 in. x 1 in., cut as illustrated, is advised, and three "V"-shaped niches cut, one in the centre and one in each end, so as to allow the planting board to be easily lifted away. After placing the board in position with the centre niche against the peg, insert pegs in the niches at each end. The board may now be lifted off, the centre peg removed, and the hole dug to receive the young tree.



measured distance out from the base line. After doing the same from the second right angle made, the two sight pegs should be joined with the second wire, and if the sightings have been correct the pegs will be opposite 24 feet marks, and you will have a perfect rectangle, the two wires being parallel.

Now peg along this second line and the wire can then be stretched between the two rows of pegs, and the pegging out quickly done.

To plant, replace the board between the two pegs, and while placing the roots, hold the tree firmly into the "V" cut (its correct position). The roots should be placed so that they radiate in all directions.

In planting, fill in the good top soil around the roots; when these are covered, tramp them firmly, then fill in the surface, but leave it light and loose.

Do not plant deeper than the trees stood in the nursery.



FRUIT TREES

Now is the Time to Order

Scarcity of QUALITY Nursery Stock is imminent, judging by present indications all over the State.

Cheap trees, of course, are always obtainable; but cheap trees mean low profits for the man who plants them. Good growers insist always on the quality product—in other words, GOODMAN TREES—trees propagated from proven parentage, expertly grown, carefully handled in their digging, grading and packing, carefully protected in their delivery.

The following are greatly in demand—will yield big profits, and can be supplied at once.

APPLES

Delicious, Granny Smith, Jonathan, Cleopatra (N.Y.P.), Dunns, Romes, Londons, Yates, Gravenstein, Winesap (Stayman's), Rokewood, Statesman, Sturmer, Tasma (Democrat)

APRICOTS

On either Apricot or Plum Stock

Blenheim (Shipley), Hemskirke, Mansfield, Moorpark, Newcastle, Oullin's Early, Royal (American), Tilton

PLUMS

Angelina Burdett, Golden Drop, Diamond, Damsons, Grand Duke, Green Gage, Jefferson, Magnum Bonum, Pond's and President

PRUNES

D'Agen (true French), Robe de Sargeant, Splendour, Sugar

JAPANESE PLUMS

Apple, Ballena, Burbank, Kelsey, Delaware, October Purple, Santa Rosa, Satsuma, Wickson, Wilson

Also leading kinds in **CHERRIES, PEACHES, PEARS, NECTARINES, QUINCES, ALMONDS, WALNUTS, SMALL FRUITS, BUSHES AND ORNAMENTALS**

You can order GOODMAN Trees through our Local Agents, or direct, and now is the time to do it. Catalogue of horticultural information mailed on request. Submit list of your tree requirements, and we will be glad to send quotations.

CHAS. J. GOODMAN

Picnic Point Nurseries

BAIRNSDALE

Victoria

(W. McF.)

BITTER PIT IN APPLES

Valuable Report Issued

Dr. A. J. M. Smith's Work in Australia.

THE second part of Dr. A. J. M. Smith's report on his Australian fruit investigations is now available. It deals with the problem of bitter pit in Apples, and combines a review of the present position of scientific knowledge with an account of the writer's own experiments when in Australia in 1925, and with suggestions for further research upon this still incompletely solved problem.

It is remarked that although bitter pit may become visible in an Apple at almost any stage of its maturity, it is most likely to appear during a period extending from about a month before to about a month after, the normal time of picking. In some varieties, however, such as Cox's Orange Pippins, in Tasmania, it is much more prone to develop in storage than on the tree. Fruit of these varieties may often be practically free from visible injury when gathered, but after two or three days bitter pit appears and for two or three weeks develops rapidly. Later on the rate of spreading of the disease slows down again and practically ceases, although a considerable percentage of sound Apples may still remain in the sample.

Cold storage at 33-34 deg. F. appears to retard the development of bitter pit in these Apples. But it is difficult to say whether the effect is permanent or only temporary, in other words, whether the final percentage of pitted Apples, as distinct from the rate at which the bitter pit becomes visible is affected. This is important, because although low temperatures on the ship or before shipment might temporarily retard the spread of bitter pit, this would be of little advantage if it began to spread rapidly once more as soon as the Apples were unloaded into a warm temperature in England.

If the Apples are not cold stored very soon after gathering, the beneficial effect is much reduced.

For example, three similar samples of Cox's Orange Pippins from the same trees were subjected to the following treatments:—

Sample 1—Cold stored after five days at room temperatures (50—70 deg. F.).

Sample 2—Cold stored after 10 days at room temperatures.

Sample 3—Stored throughout at room temperatures.

At the time of picking the samples had practically no bitter pit—two per cent. After 30 days, sample 1 showed 13 per cent; sample 2, 41 per cent., and sample 3, 76 per cent. This seems to indicate that in commercial practice only very rapid reduction of the temperature would be really effective. Five days is probably the absolute minimum of time that must elapse between picking and cooling under present conditions, to allow for packing, transport to the ship, etc.

More encouraging results

were obtained in experiments designed with a view to showing whether the degree of ripeness of the fruit when gathered had a marked effect on the rate of spread of bitter pit afterwards. In both Ribston Pippins and Cox's Orange Pippins, the results were very definite. For example, Apples of the latter variety were picked from a selected group of trees on different dates—the first on February 26, when the fruit was deemed just too immature for export, the last on March 26, when the Apples were of course almost dead ripe. The first sample had 2 per cent. of bitter bit when picked. On March 26, after a month's storage at room temperatures, it had 54 per cent. But the last sample, which had remained

on the tree until that date, had still only 5 per cent.! On April 25, after another month's storage at room temperatures, the first sample showed 60 per cent. of bitter pit; the second still had only 6 per cent.

Two results emerge from these experiments.

First, the bitter spread much more slowly in the sample left on the tree than in the picked sample, although the temperatures on the tree and in the storage room were not very different.

Secondly, the rate of spread of bitter pit after picking was very much less in the second picking than in the first. It is as though the Apples, by remaining on the tree were tided over the critical period during which bitter pit was likely to develop, and so eventually became permanently immune.

A concluding section of the report points the moral of these facts in connection with the fruit export trade. At present the fruit which appears quite sound when it is picked and packed, often arrives in England badly affected with bitter pit.

The question to be answered is:—"Can the conditions under which the fruit is carried be modified so as to arrest the spreading of the disease during transport?"

It has often been suggested that if the fruit were rapidly cooled down on the overseas steamer, the bitter pit would be arrested, and some of the author's experiments appear to confirm this. It must be remembered, however, that commercial conditions are complicated. The life of an Apple destined for the English market, from the time when it is gathered, falls into four phases:—

(1) The period between picking and shipment (one to two weeks), during which time it is exposed to warm and fluctuating temperatures.

(2) The period of cooling down the cargo in the ship's hold, while the temperature is being reduced—as rapidly as possible maybe, but still very slowly—to the ultimate carrying temperature. Dr. Smith's investigations have already shown that this may occupy from two to three weeks of the voyage.

(3) The period covering the rest of the voyage (three to six weeks), during which the fruit is at a steady temperature, which again, as Dr. Smith has shown, may be very different in different parts of the hold.

(4) The period between discharging from the ship's hold and consumption (from one to three weeks), during which time it is once more exposed to warm and fluctuating temperatures.

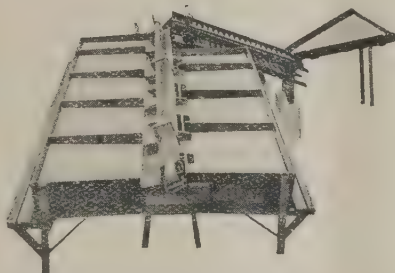
Now, at ordinary temperatures the spread of bitter pit is much more rapid during the first few weeks after picking than subsequently; in fact, in many cases, perhaps most, little more bitter pit develops after the first month. But the above table shows that in fruit exported overseas, the first month approximately brings us only to the point at which the fruit has just been cooled down; in such a case the "temperature of carriage," which is what the exporter endeavors to fix, and by which is meant the temperature maintained during period (3), may be a matter of relative indifference as far as bitter bit is concerned. The critical phase is already over.

Thus we cannot hope with any confidence to arrest bitter pit development, by stipulating for a lower carrying temperature on board the overseas steamer. A shortening of periods (1) and (2) might, however, be feasible; this would involve more rapid cooling on board the steamer, or cooling the fruit before shipment.

"To Choose the Best is Wisdom"

CITRUS GROWERS!

A Word About Your Coming Season



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

Australia needs up-to-date marketing methods. We have made a particular study of Citrus requirements and our knowledge is at your disposal.

We specialise in full packing house requirements, including Brushers, Driers, Automatic Weighers etc.

Also specially designed packing house sizers (allowing for any number of bins) for any one size, which will size Mandarins, Oranges, Lemons and all other fruits.

WRITE FOR FULLER PARTICULARS

Our Catalog also shows a range of 14 models of Fruit Sizers, any one of which is suitable for the grower who packs his own fruit

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

However, another and perhaps more important clue is given by the results (described above), obtained in experiment with Apples picked at different stages of maturity. Apparently Apples left to ripen on the tree

develop less bitter pit in storage subsequently than do Apples gathered in the relatively immature condition in which much of the fruit for export purposes is at present gathered. This applies particularly to such early varieties as the Tasmanian Ribstone Pippins and Cox's Orange Pippins, which on the one hand are the more inherently susceptible to bitter pit, and on the other hand are often gathered at a particularly immature stage in order to arrive early on the English market, and also under the impression that with their shorter storage life they are liable to finish their journey in an overripe condition unless picked when still green and hard.

The remedy for this would appear once more to lie

in the direction of more rapid refrigeration, which would allow the fruit to be left longer on the tree, and still to arrive in England without being overripe, and with its appearance and flavour and in some cases even its size, considerably enhanced.

The report concludes with a plea for a continuance of investigations along these lines, and particularly of the question of the best stage of maturity at which to pick fruit for shipment overseas. "It would be difficult," it concludes, "to mention a single problem the study of which would be likely to prove of greater importance to the fruit export trade of Australia."

Copies of the report should be obtainable from Messrs. Albert and Son Ltd., 180 Murray-street, Perth, W.A., and from the offices of Messrs. Gordon and Gotch Ltd., in Melbourne, Sydney, Adelaide and Launceston, at the price of 1/-.

MARKETING APPLES IN SMALLER BOXES.

British Columbia used the occasion of the Imperial Fruit Show, which closed on November 6, for the introduction of a new 20 lb. box for Apples, which they propose to put to commercial use. In shipping, two half boxes are strapped together. The intention is to provide a package small enough to be convenient for purchase by the consumer. It is reported to have made a widespread appeal to all of the visiting members of the trade.

Nova Scotia Apple Orchards.

There are orchards in Nova Scotia that are probably 150 years old, and still yielding fruit, says the "Fruit, Flower and Vegetable Trades Journal." The history of Apple culture in the Annapolis Valley dates back further than 150 years, however. According to the Natural Resources Intelligence Service of the Department of the Interior at Ottawa, there was an official census taken by the French authorities at Port Royal (Annapolis) in the year 1698, which

showed 1,375 Apple trees among 34 growers. In 1861 the first full cargo of Nova Scotian Apples was shipped to London. Nova Scotia now produces some 2,000,000 barrels of Apples annually, largely for the export trade.

Why, are all horses swift? Are all dogs sagacious? What, then, because Nature hath not befriended me shall I neglect all care of myself. Heaven forbid! Epictetus may not be superior to Socrates. . . . I shall never be Milo, and yet I do not neglect my body; nor Croesus, yet I do not neglect my property; nor, in general, do we omit the care of anything belonging to us from a despair of arriving at the highest degree of perfection.—Epictetus,

PACKING OF APPLES AND PEARS.

Construction of the Case.

If fruit is brought just level with the top of the case when it is packed, it will be found to be below the top after even a short interval. This is caused by each fruit settling closer into its place, and by the fruit contracting more or less as it gives up some of its moisture; with wrapped fruit the folds of the tissue-paper become more closely compacted together and permit of settling. If no allowance is made for contraction in these ways the case will not look properly filled when opened up; moreover, the pack will be slack and the fruit liable to bruise by moving in its place during transit. To overcome this, the fruit should be packed above the level of the case, so that the top and bottom of the case will spring, or bulge, when nailed down. The packing of the fruit "high" allows for this contraction, and the spring of the top and bottom of the case closes up as the contraction takes place, keeping the pack keyed up tight.

Provision for "Spring" when Nailing.

Provision should be made for this spring or bulge of the tops and bottoms to take place while the lid is being brought into place for nailing.

Undoubtedly this is best done in a press. The box rests on the thickness of its end only, leaving the remainder of the bottom free; the clamps of the press only bear on the ends of the lid, and when the pressure brings the ends of the lid down to their place, both the top and bottom are free to spring or bulge. Nailing is then carried out while the press holds the ends of the lid firmly in their place.

If a press is not used, one or both ends of the case should rest on battens, so as to have the bottom free to spring while the top is being nailed down. Under these circumstances two battens should be spiked to the floor, so that for Australian cases the inside edges are 18 inches apart, and for Canadian cases 20 inches apart. Along one of the battens a cleat should be nailed to act as guide, so that the case can be placed in correct position without loss of time.

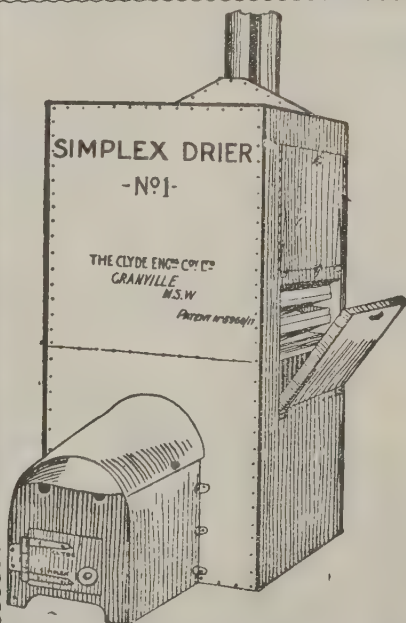
Thickness of Timber.

The ends or heads of the cases should be thick enough to stand the pressure and nailing without splitting; if thicker, the weight and overall length of the case is increased unnecessarily. The required thickness will vary—with the make of case and the class of timber used—from $\frac{3}{8}$ to $\frac{1}{2}$ inch. The timber of the sides should be stout enough to allow the

fruit to be drawn up firmly into place without them springing appreciably either then or when the case is being nailed down. Here, again, the thickness will be governed by the class of case, and the timber used will vary from $\frac{3}{8}$ inch to $\frac{1}{2}$ inch full.

In the Australian bushel case it is preferable to have the sides in two pieces only, though to reduce the cost three pieces may be allowed. But whether there are two or three pieces, they should be of approximately equal width. If a narrow piece is used it will spring during packing or nailing, so that the fruit may be cut on the edge of the abutting piece—a very objectionable condition. There are also decided objections to the whole side springing during packing or nailing, for either the pack will be low or the fruit will be too large for the count; moreover, with the sides springing to any extent, the fruit will be liable to be bruised when the cases are stacked on their sides.

The tops and bottoms should be cut fine enough to spring when the case is being nailed down, without (as previously explained) causing undue pressure on the fruit. Their thickness, again, is determined by the make of case and the class of timber, varying from $\frac{1}{4}$ inch to $\frac{5}{16}$ inch. One-sixteenth of an inch may seem trifling, but the difference it will make in the



The Clyde Simplex Driers

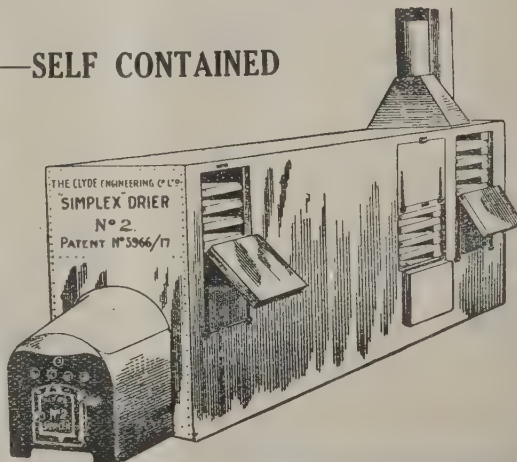
For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit

Householders
Small Orchards
or
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

flexibility of the timber is surprising. A lid or top in one piece is the easiest and quickest to handle when nailing down, but the two-piece is more flexible than the one-piece of the same thickness. If the nailing is done in a press, the latter should be adapted to suit the two-piece lid if such a lid is being used.—N.S.W. Department of Agriculture.

THE MAN WHO WINS.

The man who wins is an average man,
Not built on any particular plan,
Nor blest with any peculiar luck,—
Just steady and earnest and full of pluck.

When asked a question he does not
"guess,"
He knows, and answers "No" or
"Yes";
When set a task that the rest can't do
He buckles down till he's put it
through.

For the man who wins is the man
who works,
Who neither labour nor trouble
shirks,
Who uses his hands, his head, his
eyes—
The man who wins is the man who
tries.

PATENTS GEORGE A. U'REN

PATENT ATTORNEY

"HENTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

GYPSUM

Without parallel as a Soil
Corrective at a cost of
from 17/6 per ton in bulk
in truckloads, freight paid

Splendid results obtained
by its use in citrus and
other orchards

Also Lucerne Plots

Write for descriptive pamphlet

ARTHUR H. HASELL

17 Queen Street, Melbourne
31 Hunter Street, Sydney
Lipson Street, Port Adelaide

FIGHTING INSECT PESTS IN THE ORCHARD.

Bryobia Mite on Orange Leaves.

The bryobia mites are fairly plentiful on Orange leaves and twigs at the present time. Their eggs are red and in clusters. The perfect mites suck the sap from the leaves, causing same to turn a sickly yellow color and they often drop off.

Spray in winter with lime sulphur. Red oil is also recommended.

The Woolly Aphid Parasite, *Aphelinus mali*.

These parasites are doing excellent work in keeping the woolly aphids in check. Specimens of the parasites can be obtained from any of the Orchard Supervisors.

Light Brown Apple Moth and Painted Apple Moths.

The light green, active caterpillars of the first-named insect have been very plentiful recently on Apple and other fruit trees. The woolly tufted caterpillars of the last-named moth

are also numerous on various fruit trees. Both caterpillars are very destructive to fruit spurs. It is advisable to spray with arsenate of lead as soon as possible.

Loopers.

The looper caterpillars are still present on Apple trees in some orchards. They often attack the late varieties of Apples and eat small holes in same, causing brown patches to develop, and the Apples to become unsightly. Spray with arsenate of lead.

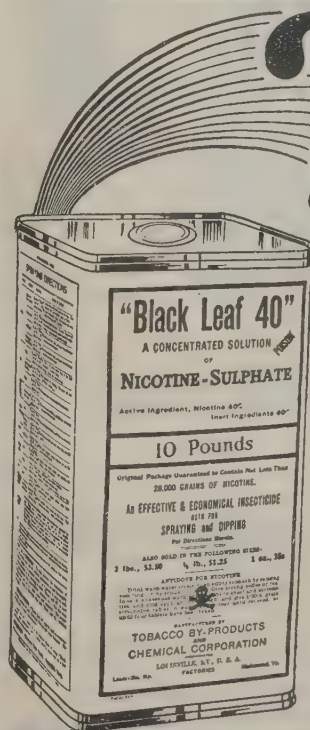
Codlin Moth.

The caterpillars of these moths will now be pupating. Examine all loose bark of Apple, Pear and other fruit trees. Remove and destroy all loose bark. All bandages should also be removed and dipped in boiling water.

For further particulars, see "Fruit World," February, 1927.

Red Spider.

Spray trees (particularly Apple trees) thoroughly with red oil or lime sulphur for these pests.



Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated
Louisville, Ky., U. S. A.

Kills
Aphis

"Black Leaf 40"
40% Nicotine

CHOOSING AN ORCHARD SITE.

Some Important Considerations.

In choosing a site, the orchardist should avoid low-lying land if suitable soil can be procured at a higher level. The higher soil will be easily drained should it ever be found necessary to resort to artificial drainage, and such a site will also ensure better "air drainage" than lower levels, where cold air settles and where frosts are most frequent and severe than on the higher levels. The observer will notice that at night stock usually choose the higher levels during cold weather for their camping-places, thus avoiding the colder atmosphere of the gullies; and it is well known that orchards on the lower levels frequently suffer severely from late frosts, even at times to the ex-

tent of the whole crop being destroyed, while orchards on the higher levels escape.

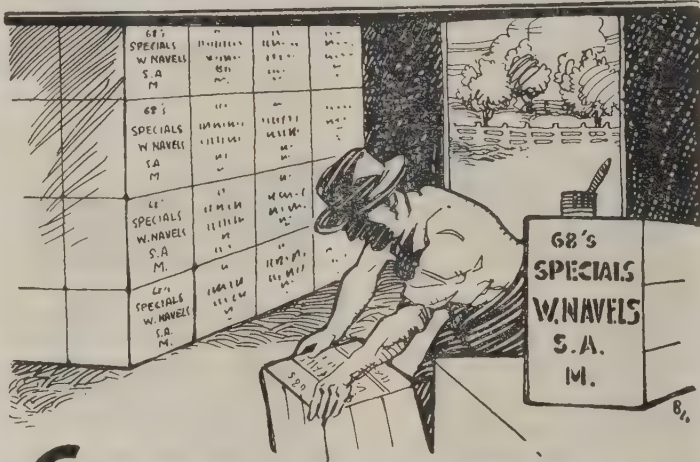
The most harmful winds in this State are those that blow from the south and west, and consequently it is most important that the site chosen for an orchard should have adequate shelter from these quarters. The best shelter is a range of hills on the south and west sides, but failing this a belt of dense high timber will suffice. The most satisfactory shelter of the latter type is a belt of natural timber, left for the purpose, but in the absence of such protection, shelter trees should be planted. Provided the shelter from the south and west is adequate, a north-easterly slope of the ground on which the orchard is actually planted is not of so much importance. In fact, instances are known in one of our Cumberland cit-

rus districts, where orchards on westerly aspects suffer less from frost than those on easterly aspects. In these cases the Citrus trees have adequate protection from the south and west from belts of natural timber. The frosts experienced in this district are probably not severe enough to cause harm directly by the actual cold, though where the sun strikes trees with an easterly aspect before the frost has thawed serious damage may result; on the other hand, the trees with a westerly aspect are not touched by the sun until after thawing has taken place, and they suffer no damage.

Again, in a district on the Northern Tableland, where losses of deciduous fruits from late spring frosts are common, there is an orchard situated right round the crest of a small hill, which has ample air drainage on all sides to a wide valley, and which is semi-circled on the southern and western sides about half a mile away by a range of high hills. This orchard is noted for the certainty of its crops, and in a season when entire crops of Apples and Pears were wiped out by a blizzard, a good crop of Apricots (a fruit most susceptible to loss by cold snaps) was harvested. Neither side of the actual hill the trees were planted on showed superiority over the other.

It is best not to plant on steep hill-sides, as there is always more or less trouble where cultivation is practised, with the soil washing away. It is also more difficult to cultivate, prune, spray, and handle the crop on slopes, than on more even country. Therefore, where possible, avoid planting on land which is very uneven or which has steep grades. Orchards have certainly been planted on hill-sides in districts where the rainfall is good, and where such thorough cultivation as is necessary in dry climates is not absolutely essential. These, however, are in districts where land is scarce owing to the mountainous country; and where, therefore, it is necessary to make the most of every acre. While the owners are doing well, they are the exceptions.

If the site is a fairly steep slope and there is any danger of washaways of surface soil, the first consideration should be the location of surface drains to prevent such washes.



GETTING IT BOTH WAYS

When Sulphate of Ammonia has been applied to the trees, it's pretty certain that they will carry a bumper crop of fruit that is well above the average in quality, for

SULPHATE OF AMMONIA

gives them that necessary fillip to enable them to carry an extra crop, and bring it to just the proper pitch of perfection to secure top market price. Citrus growers are annually using more sulphate of ammonia. They apply it in both Autumn and Spring, and say it pays handsomely. You'll say the same after a trial.

ORDER NOW FROM

The Metropolitan Gas Co.,

196 Flinders Street, Melbourne

- LEMONS -

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vic.

ELECTRICAL RESEARCH.

Men of outstanding ability are to be found in the research laboratories of Giant Manufacturing Concerns, where unlimited facilities for the investigation of scientific problems are available.

The community benefits directly from this close association of Scientific research and industry, as may be seen in the tremendous strides made in the manufacturing processes, of the metallurgical, electrical and lighting industries.

We therefore welcome the official announcement that Professor Dr. G. Hertz, together with Professor Dr. J. Franck, has been awarded the Nobel Prize for physics.

Professor Hertz, a nephew of the famous scientist of the same name, by discovering the propagation of the so-called Hertzian waves, laid the foundation of modern wireless communication.

In 1921 Dr. Hertz entered the Physical Laboratory of the Philips Lamp Works, as a research physicist.

His scientific work had also a practical side; it gave valuable information concerning the possibilities of the electrical discharge in gases, as a means of producing light. In the course of his work on rare gases, Dr. Hertz invented a method of separation of mixtures of rare gases into their components by diffusion. He did also valuable work in the field of dull-emitter radio valves.

DO FERTILISERS IMPOVERISH THE SOIL?

Although farmers in general have long ago proved to their own satisfaction that commercial fertilisers bring desirable results (comments the "American Fertiliser"), there occasionally appears an individual who suspects such material of being ruin-

ous to land. Mr. A. W. Blair, soil chemist at the New Jersey Experiment Station, states that there is no basis for such a fear, if the fertiliser is used in accordance with approved methods.

Professor Blair calls attention to the fact that at Pennsylvania State College good yields of hay and grain have been obtained from land treated with chemical fertilisers continually for 40 years. Similar good results have been obtained at the New Jersey Experiment Station in tests conducted for the last 30 years. The

palm for long-time tests of chemical fertilisers goes to England, however. There, at the Rothamsted Experimental Station, 35 bushels of Wheat to the acre are being obtained on land which has been treated with chemical fertilisers continuously for the last 75 years.

Thank you for sending on your paper. I value it very much, in particular the crop reports, which are valuable in helping to decide what to do with our fruit crops.—H. O. Hanford, Belair, S.A., 19/2/27.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers.

Fruchthof . HAMBURG . Germany

Established
1885

Special
Catalogues
showing
prices
issued
after
each sale

Tel.-Addr.:
"Timmkorn
Hamburg"

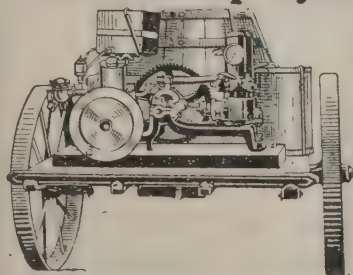
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired.

BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Effective Spraying means Better Crops and Bigger Profits



Made in Single and Double Plunges
3 and 4 horse power

You can have the same results as thousands of other growers by using

The BAVE-U (Pioneer Australian) POWER SPRAYER

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles

Declared by a number of users to be worth its weight in gold

Write for Catalogue to the Makers:—

RUSSELL & CO.
ENGINEERS

BOX HILL, MELBOURNE
VICTORIA

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett St.
Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney

Fruit Growers & Shippers!

Compare the Prices at MANCHESTER

(Christmas Sales)

With those realised at other British Ports

The figures are from "The Agricultural Market Report" (24th December, 1926), an Official publication issued weekly by the British Ministry of Agriculture and Fisheries, to indicate average prices realised for produce sold at various markets during the preceding week.

Average prices for FRUIT sold at the following markets during the week ended 22nd December:

DESCRIPTION.	APPLES.									
	Bristol.		Hull.		Liverpool.		London.		Manchester.	
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	1st	2nd
	quality	quality	quality	quality	quality	quality	quality	quality	quality	quality
CALIFORNIAN.	case.		case.		case.		case.		case.	
Newtown	11.6	9.6	10.0	9.0	9.0	8.6	10.0	8.0	11.0	10.0
Red	12.0	10.0	11.0	9.6	10.6	8.6	11.0	9.0	12.0	11.0
OREGON.										
Newtown	15.0	13.0	13.6	11.0	14.0	11.0	14.0	10.0	17.0	14.0
Red	12.0	9.0	12.0	10.6	10.6	9.6	12.0	9.0	13.0	11.6
OTHER AMERICAN	barrel		barrel		barrel		barrel		barrel	
Baldwin	27.0	23.0	21.0	16.0	22.0	16.0	22.0	20.0	28.0	25.0
Greening	28.0	24.0	27.0	24.0	24.0	22.0	28.0	26.0	32.0	25.0
York Imperial	26.0	22.6	23.0	18.0	21.0	16.6	24.0	20.0	30.0	25.0
NOVA SCOTIA.										
Baldwin	24.0	18.6	20.0	15.0	18.0	16.0	21.0	16.0	25.0	22.0
OTHER CANADIAN.										
Baldwin	28.0	24.0	—	—	23.0	20.0	—	—	30.0	25.0
Greening	32.6	25.0	—	—	26.0	23.0	—	—	32.0	25.0

NOTE.—Approximate weights: Cases Apples, 40 lbs. Barrels, Apples, 126-144 lbs.

The Port of Manchester

Was Third amongst the Principal British Ports in 1925, according to official figures issued by the Board of Trade,—the value of cargoes handled being £115,647,548.

The Manchester Ship Canal and Docks

are 28 feet deep, the latter situated 40 miles inland; they are equipped with modern appliances for the most economical handling and distribution of every variety of produce—all berths being in direct communication with main line railways.

Returns for 1925 showed that the Banker's Clearings at MANCHESTER were £814,237,000—exceeding those of Hull, Bristol, Newcastle-on-Tyne, Birmingham and Liverpool combined—a sure indication of commercial and industrial activity, and proof that

MANCHESTER

Is Unexcelled as a Market and Distributing Centre.

If difficulty is experienced in securing Manchester direct tonnage, report immediately to—

Capt. W. J. WADE

Representative of the Manchester Ship Canal Co.

8 Bridge Street, SYDNEY

Cables and Telegrams:—"Portoman," Sydney.

'Phone: B 5818.

CITRUS GROWERS

Some Interesting Facts To Ponder Over

THE excellent results of fumigation of Citrus Trees with Cyanogas, not only as regards the destruction of insect pests, but also in reference to the quality of the fruit, has convinced all the State Governments that it is possible for growers to produce good clean fruit.

In Victoria, South Australia and New Zealand, the importation from other States of Scale Marked Fruit is now prohibited

And it is a known fact that no exporter will buy a washed Orange.

Fumigation with Cyanogas costs very little, and involves very little physical effort. It is a day-time job. It can be carried out as easily and safely in bright sunlight, at any temperature, as at night, so long as the relative humidity does not exceed 70 per cent.

Why take the risk of finding your fruit banned by dealers, when you can ensure a good crop of best quality fruit. Fumigate at once. The Cyanogas Blower costs only 14/6, the "Dust" costs 32/6 for 25 lb. tins, or 115/- for 100 lbs.—and full, clear, easily-followed instruction sheets are available free. Two men with a dozen tents can fumigate 1,000 trees in a week.

Get at the facts

Send for free illustrated descriptive book on Cyanogassing Citrus Trees. Any of the following will send you a copy:—

New South Wales—
Buzacott & Co. Ltd.,
Sydney.

Victoria—
A. Victor Leggo &
Co., Melbourne.

South Australia—
S.A. Farmers' Co-op.
Union Ltd., Adelaide.

Queensland—
Buzacott's (Q'land.)
Ltd., Brisbane.

West Australia—
Harris Scarfe &
Sandovers Ltd., Perth.

Tasmania—
Davidson & French,
Launceston; Roberts
& Co. Ltd., Hobart.

McPherson's

Proprietary Limited

(Established 1860)

for

HIGH-GRADE : Seccateurs

GENUINE "REISER" SECCATEURS.

One of the best brands made, finest steel throughout, and will wear a lifetime with ordinary care. 9-inch, 16/6 pair.

"WISS" SOLID STEEL SECCATEURS.

Another fine old make, solid steel, 9-inch, 12/-; 10-inch, 13/6.

"MEXEUR" SECCATEURS.

Self-Colour Handles, 9-inch, 7/9 pair.

Bone-covered Handles, 9-inch, 9/- pair.

Other makes, from 2/- pair.

Pruning Saws

DISSTON'S "CALIFORNIA" CURVED BLADE PRUNING SAW.

Finest selected steel, well ground and set, 14-inch long. An ideal Saw for the busy man, 4/9 each.

"DUPLEX" PRUNING SAWS.

12-inch, 2/9; 14-inch, 3/- each.

DISSTON'S "LITTLE GIANT" PRUNING HOOK AND SAW.

A very useful tool. 11/- each.

"ORCHARD" ditto, 12/- each.

Earth Scoops

SOLID STEEL EARTH SCOOPS.

Being pressed COLD from one piece of steel, these Scoops are especially strong at the corners.

Fitted with Handles.

Capacity	Price.
3 cubic feet	65/-
5 " "	67/6
7 " "	70/-

Our New 272 Page Priced and Illustrated Catalogue will be issued shortly. Complete range of Garden and Orchard Tools, Carpenter's Tools, Pumps of all kinds, etc., etc. Have you got your name down for one?

Please send me your new "Farm, Home and Workshop Catalogue" when ready.

Name

Address

McPherson's
Proprietary Limited

582-592
Collins St. Melbourne

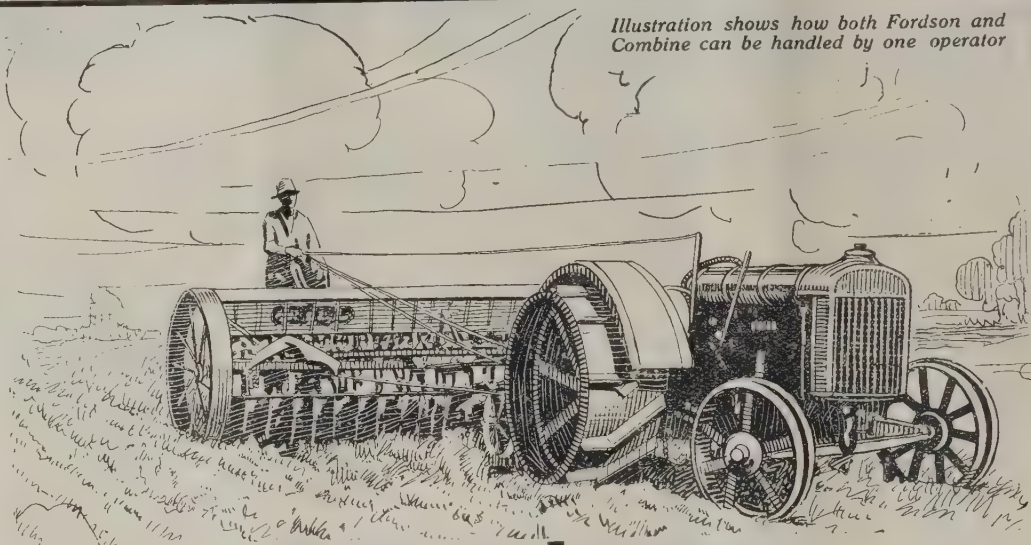


Illustration shows how both Fordson and Combine can be handled by one operator

Saves hours of the farmer's day

SEEDING days are often hurried when weather conditions are not just ideal. Use of Fordson power to pull the Combine Drill makes it possible to complete the entire work of seed bed preparation and seeding with uniform ease and efficiency.

Mr. A. W. Major, of Iraak, via Carwarp, Victoria, states his Fordson worked 33 tyne 16 row 9½ ft. combine drill and cultivator, covering 22 acres in a day, the fuel consumption averaging ¾ gallon per acre. With every farm implement, Mr. Major proved the Fordson both speedy and economical.

Fordson speed and power actually add hours to the farmer's day at those times when he needs them most, not only in seeding, but in every other farm operation. A Fordson will work 24 hours on end without tiring, and generate its own lighting power for working at night. Your nearest Ford dealer will gladly demonstrate Ford products on your own property—no obligation to you.

Fordson

The Universal Tractor

£180

Complete with Fenders and pulley. F.O.B. Ford Works in this State.

Ford

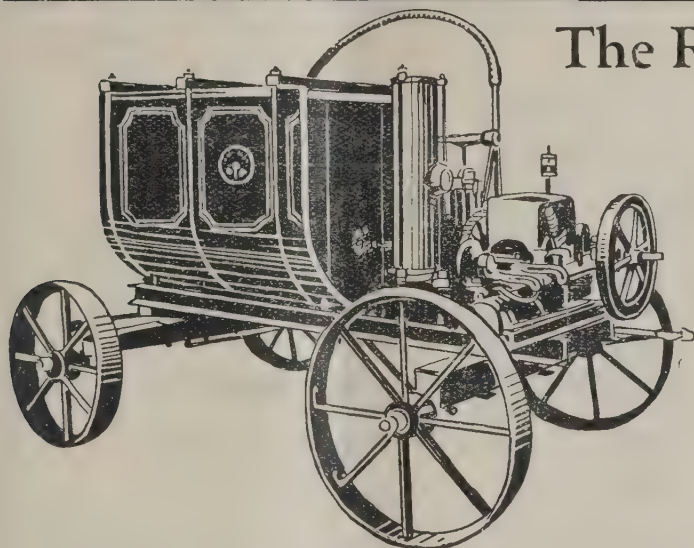
One-Ton Truck

Complete with Standard body. F.O.B. Ford Works in this State.

£160

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

Branches in all States



The Right and Wrong of Spraying

Time is a deciding factor, but there is something more.

The Right Spray at the Right Time is the slogan of Success.

The wrong spray is always fatal, but the right spray at the wrong time is equally so.

The McDonald Way to Spray

Send for our Illustrated Booklet, which gives full instructions as to sprays and times. Free on application.

The Famous 604 Sprayer Leads

It is designed for greater efficiency.

It will not fail you in the time of need, when stoppages mean loss. It is strong, all parts are instantly accessible—all are standard—adjustments are easy.

The wonderful Relief Valve prevents wear and trouble. No bursting hoses. No engine and pump strain. Send for complete details concerning Spraying problems. We are specialists, and ready at all times with advice.

A. H. McDONALD & CO. PTY. LTD.

570-4 BRIDGE ROAD, RICHMOND
N.S.W. Address: 25 Clarence Street, SYDNEY
S.A. Address: 134 Waymouth St., ADELAIDE
(W.McF)

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

*Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented)*

Atomol Dusts Ltd.

Manufacturers of
**DUSTING MATERIAL USED AS INSECTICIDES & FUNGICIDES
ON PLANT LIFE.**
DUMPHRIES PLACE
OFF GILLES STREET
ADELAIDE

Growers to-day more than ever realize their success is largely measured by their ability to control the multifarious insect and fungi pests common to plant life, and advantage must be taken of the most up-to-date discoveries resulting from scientific research. Whilst very little change has taken place within recent times with regard to the materials used, the method of application is rapidly altering. We are convinced dusting will supersede spraying. This is not merely a theoretical calculation, but is based on the practical experience of growers who have had the opportunity of using the correct dusts and dusting mechanical appliances. Atomol Dusts Ltd. is an embodiment of a movement for the practical application of scientific discoveries in the realm of plant life to every day use. It has the goods that bring results.

**SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED
INTERSTATE AGENTS.**

VICTORIA:—

Irymple Packing Co.,
Irymple.

Irymple Packing Co.,
Merbein.

Sarnia Packing Co.,
Mildura.

Red Sun Packing Co.,
Red Cliffs.

Mr. G. W. Hall,
Box 1, Bunyip.

QUEENSLAND:—

Orchard Supply Agency,
Maryland Street,
Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington Street,
Perth.

TASMANIA:—

Charles Davis Ltd.,
60 Elizabeth Street,
Hobart.



Potash—and—Prosper!

(But would you
not prefer to use
**FRENCH
POTASH?**



If so,
demand
“Stork” Brand)

Many Australian and New Zealand Fruitgrowers are making their trees pay even to-day, simply because they use Potash.

But it must be applied in sufficient quantity.

If a complete mixture is offered—be sure it contains enough Potash to give the trees a real Potash dressing—say from $1\frac{1}{2}$ to 2lb. each.

You can sprinkle Potash lightly over a great surface and because it is too lightly applied—waste your money.

French Sulphate and Muriate
... are both available ...

But Muriate is the cheaper and equally valuable salt.

PROVE IT BY TRIAL!

For Particulars and Prices, Retail and Indent

Apply

Dalgety & Company Limited

Bourke Street, Melbourne

Only One Sprayer Has ALL of These Advantages :---

- Powerful Pump and Engine
- Semi-circular Vat, built round axle and thus balanced perfectly
- Broad High Wheels (42 inches x 6 inches)—easily drawn over soft ground
- Patented Relief Valve—adjustable to any pressure and released instantly

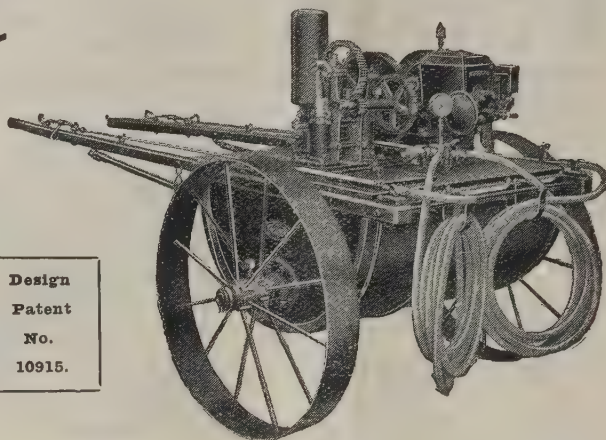
AND THAT ONE IS

Cooper

"PERFECT BALANCE"

The Best Sprayer Made

Design
Patent
No.
10915.



WRITE NOW



Cooper Engineering Co. Ltd.

350-358 SPENCER ST., MELBOURNE
129-131 SUSSEX STREET, SYDNEY

Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

Any of the undermentioned will gladly furnish particulars, price, terms, etc.

FRUIT GROWERS!

Avoid bruising of your fruit in transit
by using the

"AIR FREE" CASE

Patent 9331/22

which surpasses any other case for
use in Cool Stores, or Transport
of Fruit to Local, Interstate and
Overseas Markets

Orders now being received for 1927
Export Season

Full particulars from

F. Cave & Co. Pty. Ltd.

Wholesale Fruit Merchants & Exporters

Western Market, Melbourne

Cable & Telegraphic Address: "Cavecofruit," Melbourne
Telephone: F 3930

New and Up-to-date

. Gardening Books .

that will assist you in the
pursuit of your favorite hobby

Just Published.

Whitcombe's

Australian Gardening Handbook

An up-to-date series of Handy Books
for the Australian Amateur Gardener

Written by and under the General
Editorship of

E. E. PEScott, F.R.H.S., F.L.S.

GARDENING IN AUSTRALIA.

Profusely Illustrated. Price 1/8 posted.

BULB GROWING IN AUSTRALIA.

Profusely Illustrated. Price 1/8 posted.

Send your order now to

**HORTICULTURAL PRESS
PTY. LTD.**

Bank House, Bank Place, 410 Collins St., Melbourne

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

THE "Garden Lover"

The Brightest
Horticultural Monthly

ANNUAL SUBSCRIPTION.

Commonwealth 6/- Posted
British Poss. 8/-
Foreign 8/6

ORDER YOUR COPIES NOW

THE "GARDEN LOVER"

Bank House, Bank Place, Melbourne

GRUBBING



WITH A
"DIGGER" WINCH

A Man can uproot more Trees and Stumps in
a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

Thousands
in Use

It earns its
Famous
LOW PRICE
in a Few Days

Write for
Catalogue

Latham Dehydrators

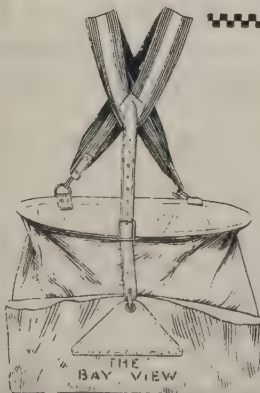
"STAND ALONE"

The "Rolls Royce" of the Artificial Drying
World.

Particulars, Prices, and list of present
users on application

D. J. LATHAM

157 Queen Street,
Melbourne, Australia



"Bay View" Fruit Picking Bag

CAN BE USED FOR ANY CLASS OF FRUIT

Allows use of Both Hands in Picking
No Bruising of Fruit

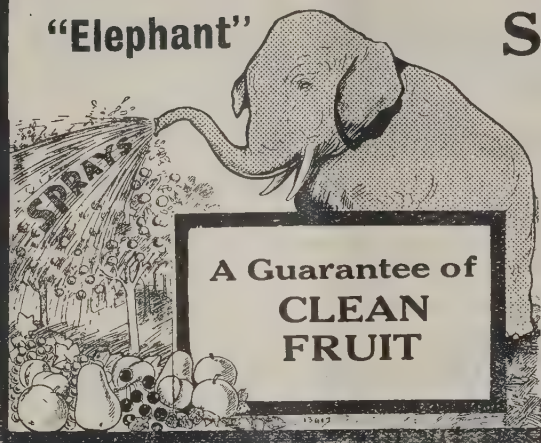
Weight Carried on Shoulders instead of
Back of Neck

Mr. J. LANG, President of the Australian Conference of
Fruitgrowers, writes:—"After two season's use I am well
pleased with the Bags: fruit receives minimum of handling,
and is less liable to damage. They are also a great time saver."

PRICE, 12/6 EACH

Postage in Victoria, One bag, 1/3. Two bags, 2/-
Postage, Interstate, One bag, 2/2. Two bags, 3/8

F. R. MELLOR, 440 Elizabeth St., MELB.



STILL ON TOP!! ORCHARDISTS

should use only the best Fruit Sprays,
therefore ask for and see that you

GET

"Elephant" Brand

NOW IS THE TIME TO USE:—

Prepared Red Oil

AND ORDER

ARSENATE OF LEAD (PASTE & POWDER)

To obtain the best results it is necessary to spray thoroughly and frequently with Arsenate of Lead. This takes up considerable time, and is costly. It is therefore all the more necessary to use the Best Brand obtainable. To be sure of this, see that you use "ELEPHANT" BRAND, which has been proved to be not only the most reliable on the Australian market for many years, but the Highest Grade of Arsenate of Lead still obtainable.

Since the Wonderfully fine "ELEPHANT" BRAND ARSENATE OF LEAD came on the market years ago, numerous tests carried out by the various Government Agricultural Departments invariably show that this Brand stands alone. No other brand has shown consistently the very high qualities of "ELEPHANT" Brand. The figures published below speak for themselves,

And are THE ONLY RESULTS PUBLISHED IN THE SOUTH AUSTRALIAN JOURNAL FOR AGRICULTURE DURING THE PAST FOUR YEARS.

In 1921 "ELEPHANT" BRAND ARSENATE OF LEAD had the wonderful suspension of 89.35% (Jan. Journal), whilst in 1922 the Percentage was 52.4% (Mar., 1923, Journal), and in 1923 the percentage was 82.2%. (This was the last published in Dec. Journal). In each case "ELEPHANT" came out easily on top. Therefore we have not yet been beaten for suspension, and it should also be noted that the percentage of killing property in our Arsenate of Lead is particularly high.

**Also buy—E.B. Lime Sulphur, Atomic Sulphur
Spreader, Bordeaux Powder, Weed Killer
And Sulphur, Black Leaf 40, Bluestone, Etc.**

Write for a copy of the marvellous Government tests

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

Agents: Seedsmen, &c.

INTERSTATE AGENTS:

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNIS LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR MAY

Illustrations.	
Pruning 1 and 2-year old Trees	207
Contents.	
Answers to Correspondents	190
Autumn Clean-up in the Orchard: Codlin Moth, Leaf Curl, and Brown Rot	
Arsenic on Apples	194
Australia's Oldest Jam Factory	207
Beekeeping: Honey Production	210
Canned Fruits: Australian Fruit on Overseas Markets; Imperial Fruit Show; California Peaches	195-196
Citrus: Fundamental Principles of Citrus Growing; Long Hanging Orange; Citrus Crop Estimates	199-200
Control of Codlin Moth, Leaf Curl and Brown Rot	194
Cost of Insect Plagues	200
Dried Fruits: Dehydration of Prunes; Developing the Canadian Market; Prices	191-192
Export of Fresh Fruits Act	183
Export of Ohanez Grapes	192
Fighting Insect Pests	202
Fruit Production per Tree	202
Markets: British and Australasian	208-209
Naming of Apples	211
New South Wales: Citrus Crop Prospects; District Notes; Irrigation Areas	189-190
New Zealand: Control of Weeds; Crop and Market Reports	193
Nitrate of Soda for Fruit Production	xvi.
Organising the Fruit Industry	184
Organised Marketing Information	216
Personal	200
Poultry Notes	205
Propagation and Selection of Fruit Trees	213-215
Pruning Fruit Trees	207
Queensland: Orchard Notes	212
South Australia: Citrus Crop Prospects; Orchard Notes; Jam Making at Glen Ewen	210-211
Tasmania: Apple Marketing; Visit of Dr. Kidd; May Orchard Notes	197-198
Temperature Conditions in Refrigerated Holds carrying Apples	187-188
U.S. Exports of Dried and Canned Fruits	191
Victoria: Fruitgrowers' Convention; District Shows; Fruit Crop Report	185-186
Western Australia: Season Work for May; Citrus Crop Estimates; Bridge-town Notes	201

INDEX TO ADVERTISERS

Books, Publications—	
"Garden Lover," Bank House, Bank Place, Melbourne, pp. 179, xxi.	
Whitecombe's Australian Gardening Handbooks, Hort. Press Pty. Ltd., Bank House, Melbourne, p. 178.	
Budding Knives.	
L. P. Rosen & Son, Epping, N.S.W., p. 210.	
Canning Machines—	
Austral Otis Andebar Cannery Equipment Pty. Ltd., Hanna St., Melbourne, p. 179.	
Heine, John and Son Ltd., Sydney, N.S.W., p. xx.	
Cases—	
"Air Free" Case, F. Cave & Co. Pty. Ltd., Western Market, Melbourne, p. 178.	
Hardwood Shooks, A. Palmer & Co., Bairnsdale, Victoria, p. 205.	
Cold Storage—	
Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii.	
Dehydration—	
Latham, D. J., Sun Buildings, Queen St., Melbourne, p. 179.	
"Simplex," Clyde Engineering Co. Ltd., Granville, N.S.W., p. 216.	
Dusting Machines—	
Atomol Dusts Ltd., Dumphries Place, Adelaide, p. xiv.	
"Niagara" Duster Gun, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.	
Fruit Buyers—	
Brooke, C. M. & Sons, Whiteman St., South Melbourne, p. xvi.	
J. Younger, 22 Market St., Melbourne (dried fruit), p. 192.	
Fruit Tree Suppliers—	
Brunning, John, and Sons, Somerville, p. 182.	
Picnic Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii.	
Two Bays Nurseries, Moorooduc, Vic., p. xiii.	
Fruit Graders—	
"Lightning," Lightning Fruit Grader Co., 5 Hoddle St., Collingwood (Vic.), p. 213.	
Fumigation—	
"Cyanogas," Buzacott & Co. Ltd., Sydney, p. xi.	
"Vitamite," Lincoln & Blunt, 191 Liverpool St., Sydney, p. x.	
Manures, Fertilisers, &c.—	
French Potash, Sulphate and Muriate, Dalgety & Co., Bourke St., Melbourne, p. 177.	
Sulphate of Ammonia, Australian Sulphate of Ammonia Propaganda Committee, 360 Collins St., Melbourne, p. 214.	
Gypsum, A. H. Hasell, 17 Queen St., Melbourne, p. xv.	
Victor Plant Foods, Victor Plant Food and Gardening Co. Pty. Ltd., 136 Dandenong Rd., Caulfield, p. xvi.	
Motor Cars and Trucks—	
Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii.	
Orchard Ploughs, Cultivators, &c.—	
D. Harvey, Box Hill, Melbourne, p. 203.	
Orchard Requisites	
McPherson's Pty. Ltd., 582 Collins St., Melbourne (Vic.), p. xi.	
Patent Attorney—	
Geo. A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne, p. xvii.	
Picking Bag.	
"Bay View," F. R. Mellor, 440 Elizabeth St., Melbourne, p. 179.	
Poultry—	
Karswood Poultry Spice, Agents all States, p. 204.	

Refrigerating Machinery—

Werner, R., & Co. Pty. Ltd., Richmond Vic., cover iii

Roller Conveyors—

Schumacher Mill Furnishing Works Pty. Ltd., Port Melbourne, p. xxiv.

Spray and Dusting Material—

"Blue Bell" Arsenate of Lead, 31 Queen St., Melbourne, Vic., p. iii.

"Black Leaf 40," Tobacco By-Products and Chemical Corp. Inc., Louisville, Ky., U.S.A., p. xv.

"Carlton" Arsenate of Lead, Walter Voss & Co., Milwall, London, E.14, p. 210.

"Cloudform" Dusts, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.

"Elephant" Brand, Jaques Pty. Ltd., Madden Grove, Burnley, Vic., p. 180.

"Gargoyle" Spraying Oil, Vacuum Oil Co. Pty. Ltd., cover i.

"Swift's" Arsenate of Lead, H. W. Peabody & Co., Sydney and Melbourne, p. viii.

Dusting Powders, Atomol Dusts Ltd., Dumphries Place, Adelaide, p. xiv.

"Qua-Sul," Lincoln and Blunt, 191 Liverpool St., Sydney, p. x.

"Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.

"Black Leaf 40," Producers' Distributing Soc. Ltd., Melbourne, p. iv.

Berger's Arsenate of Lead, Neptune Oil Co. Ltd., River St., Richmond Vic., p. xxii.

"Yarra" Fruit Sprays, Parsons & Jaques, 6 Patterson St., Abbotsford, Vic., p. 194.

Spray Pumps and Guns—

Alumino-Thermic and Metal Sprayers Ltd., 247 George St., Sydney, N.S.W., p. iv.

"Bave-U" Power Sprayer, Russell & Co., Box Hill, p. xvii.

"Bave-U" Power Sprayers, N.S.W. Agent, E. Robinson, 333 George St., Sydney, p. 198.

"Cooper," Cooper Engineering Co. Ltd., 129 Sussex St., Sydney and 300 Spencer St., Melbourne, p. 178.

"Rosebery" Spray Pump, A. H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xiii.

Vermorel "Eclair" Sprayer, Cooper Pegler & Co. Ltd., 24d, Christopher St., London, E.C.2, p. 207.

Strapping Fruit Cases—

Gerrard Wire Tying Machines Co. Pty. Ltd., 119-125 Hawke St., West Melbourne, p. xix.

"Griplock," Wire Strapping, Jas. Henty & Co., 499 Lit. Collins St., Melbourne p. ix.

Steel Fencing Posts—

Commonwealth Wool and Produce Co. Ltd., Sydney, p. iv.

Stencilling Inks—

Caldwell's Pty. Ltd., Yarra Bank Rd., South Melbourne, p. 201

Tree and Stump Pullers—

Trewhella Bros., Trentham, Victoria. Stumping Jacks, etc., p. ix.

"Digger," Quick Manufacturing Co., 78 Pender St., Thornbury, p. 179.

Transport—

London and N. E. Railway, Burns, Philp & Co., agents, p. xxii.

Remember !

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the **BEST**, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS." postage rate: 2 ozs. 11d.. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 11d.. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place off 410 Collins Street, Melbourne.

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart.
Western Australia: D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane.
New Zealand: Gordon & Gotch Ltd., Wellington, Dunedin and Auckland.
Great Britain: Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

News in Brief

Interesting particulars are given elsewhere regarding the California Government Division of Markets, which supplies valuable information on production, distribution and consumption, etc., develops present and potential markets, and helps to bring about better relations between producer, consumer, and middleman.

A reward of £2,500 has been offered by the Queensland Banana Sectional Group Committee for an effective remedy for the beetle borer, and a Committee has been appointed to investigate proposed remedies.

The Superintendent of Horticulture in W.A. (Mr. G. Wickens) states that some 400,000 cases of fruit are being shipped from that State this season. Nearly 70 per cent. of the Apples have been sold on consignment, at very satisfactory prices.

The relationship of tree selection and fruit production is interestingly dealt with in an article by Mr. J. M. Ward, Victorian Superintendent of Horticulture, in this issue.

Estimates place the forthcoming Citrus crop in N.S.W. at 1½ million bushels.

Export of Fresh Fruits

Provisions of the Federal Act

Poll of Growers to be taken before Act becomes Operative

AS NOTED in our last issue, the Fresh Fruits Overseas Marketing Act was passed through all stages of the Federal Parliament on March 25, and arrangements are being made for a poll of growers to decide whether the Act shall come into operation. The main provisions of the Act are as follow:—

The provisions of the Act shall become operative on a date fixed by proclamation, provided that at the poll of growers through the Commonwealth a majority of votes are given in favor of the operation of the Act.

After the Act has been in operation for three years (or any further period of three years), if a requisition signed by at least 300 growers is sent to the Minister, a poll shall be held as to whether the Act shall continue in operation.

In the Act, "fresh fruits" means Apples and Pears; "grower" means the occupier of an orchard from which at least 100 bushel cases of fruit (on an average of 40 lbs. to the bushel) were exported during either of the preceding two years; "the board" means the Fresh Fruits Overseas Marketing Board constituted under the Act; "the Fund" means the Fresh Fruits Export Fund established under the Act.

The Board.

The Board shall consist of one member with commercial experience appointed by the Governor-General to represent the Commonwealth Government; two representatives of the growers of Tasmania; one representative each of the growers of Victoria, South Australia and Western Australia; and one representative of the growers of New South Wales and Queensland.

The Government representative shall not be a person who has submitted himself for and failed to secure election as a member of the Board. The Government representative will hold office during the pleasure of the Governor-General; the elected members shall hold office for two years, and be eligible for re-election.

An elected member may be removed from office, and vacancies on the Board may be filled by the Governor-General on the recommendation of the Board.

Elections of members of the Board may be held on the same day as that appointed for the poll of growers.

The Board shall be a body corporate, with perpetual succession, and a common seal, and shall be capable of suing and being sued, and of holding real and personal property.

Deputies may be appointed to act in the illness or absence of members of the Board. Members (and deputies while acting as such) shall receive fees and expenses as prescribed.

At its first meeting, the Board shall appoint one of its members as chairman, to hold office until July of the succeeding year.

Meetings of the Board shall be held from time to time as the Board determines. The chairman or any three members may at any time call a special meeting. At all meetings three members shall form a quorum. The chairman shall have a deliberative vote, and in case of equality of votes, a casting vote.

London Agency.

The Board may constitute an agency in London, to consist of such number of persons as the Board from time to time determines, one to be appointed by the Governor-General, and to hold office during his pleasure, and the others to be appointed by the Board and hold office during its pleasure.

The London Agency shall keep the Board advised as to current prices of fresh fruits, and as to other matters relative to the disposal of Australian fresh fruits in England or elsewhere, and generally act as the agent of the Board in accordance with the directions of the Board.

The Board may appoint such officers as are necessary to carry out its functions under the Act; these officers shall not be subject to the Commonwealth Public Service Act.

Control of Exports.

For the purpose of enabling the Board effectively to control the export, and the sale and distribution after export of Australian fresh fruits, the Governor-General may by proclamation prohibit the export from the Commonwealth of any fresh fruits except in accordance with a licence issued by the Minister subject to such conditions and restrictions as are prescribed after recommendation to the Minister by the Board. This section shall not apply to the export of fresh fruits to any port between the 90th and 180th degrees of East Longitude, and north of the 30th parallel of South Latitude.

Upon the issue of such proclamation, the Minister may grant to any person desiring to export fresh fruits a licence to do so, upon terms and conditions, and for such period as prescribed. Where the Minister is satisfied, on report by the Board, that any person to whom a licence under this section has been granted has contravened or failed to comply with any term or condition upon which the licence was granted, the Minister may cancel the licence. The penalty for offences under this section is £100.

The Board may accept control of any fresh fruits placed under its control for the purposes of this Act.

The operation of contracts for the sale and purchase of fresh fruits entered into in writing before 15th March, 1927, shall not be affected by the Act.

Shipment of Fruits.

After the constitution of the Board, or later date recommended, contracts for carriage by sea of fresh fruits to any place beyond the Commonwealth, shall not be made except by the Board acting as the agent of the owners of the fresh fruits or of other persons having authority to export fresh fruits, or in conformity with conditions approved by the Board.

Customs officers may require any person who exports fresh fruits from the Commonwealth to satisfy them that the contract has been approved by the Board, and may decline to pass the entry until so satisfied. This section shall apply to contracts made both before and after the constitution of the Board, provided the approval of the Board shall not be required for any such contract if the fresh fruits to which it relates are exported not later than January 1st, 1928.

Powers of the Board.

The Board shall have full authority to make such arrangements and give such directions as it thinks fit for (a) the handling, marketing and storage of fresh fruits; (b) the shipment of the fresh fruits on such terms and in such quantities as it thinks fit; (c) the sale and disposal of fresh fruits; (d) insurance against loss of any such fresh fruits either in the Commonwealth or in transit and until disposed of; and (e) all matters necessary for the due discharge of its functions in handling, distributing and disposing of the fresh fruits.

For the purpose of securing any advances made to the Board, or at the request of the Board, to the owners of any fresh fruits placed under its control, the Board shall have full power, on behalf of the owners of the fresh fruits, to give security over the

fresh fruits and to execute all mortgages and other instruments of assurance in the same manner in all respects as if the Board were the legal owners of the fresh fruits.

Fresh Fruits Export Fund.

There shall be a Fresh Fruits Export Fund, into which shall be paid all moneys received by the Collector of Customs under the Fresh Fruits Export Charges Act 1927. Income from this fund shall not be subject to taxation by the Commonwealth or a State.

The moneys paid into the fund shall be applied by the Board (a) in payment of expenses and other charges incurred by the Board in course of its business; (b) in payment of salaries and wages of officers of the Board; (c) in payment of travelling allowances, fees or other remuneration to members of the Board or of the London Agency; (d) in investment in securities of or guaranteed by the Government of the Commonwealth or of a State. Moneys not invested may be lodged in an account with the Commonwealth Bank or other prescribed Bank.

Moneys received by the Board in respect of the sale of fresh fruits or otherwise (except the fund) shall be paid into a separate banking account.

The Board may call upon any person to furnish information in relation to the fresh fruits industry.

The accounts of the Board shall be subject to inspection and audit by the Commonwealth Auditor-General.

Liability of the Board.

The Board in its corporate capacity shall, in all its operations under this Act, be deemed to be the agent of the owners of all fresh fruits of which the Board has accepted control, and the mutual rights, obligations and liabilities of the Board and the several owners shall accordingly be determined in accordance with the law governing the relations between principals and agents, save that nothing in this Act shall be construed to limit the power of the Board to exercise, without the authority of the owner of any fresh fruits, any power with respect to such fresh fruits which is expressly or by implication conferred on the Board by or under this Act.

The members of the Board shall not be personally liable for its acts.

In September of each year the Board shall report to the Minister regarding the operation of the Act, a copy of the report to be laid on the table of each House of Parliament, accompanied by a statement by the Minister.

Regulations.

The Governor-General may make

regulations, not inconsistent with this Act, prescribing all matters which by this Act are required or permitted to be prescribed, or which are necessary or convenient to be prescribed for carrying out or giving effect to this Act, in particular prescribing penalties not exceeding £50 for any breach of the regulations.

These regulations shall commence on the day the Act receives the Royal Assent.

Fresh Fruits Export Charges Act.

During the same sitting of Parliament, the Fresh Fruits Export Charges Act was passed. This enables a maximum levy of one penny per case on Apples and Pears exported to be collected.

ORGANISING THE FRUIT INDUSTRY.

(To the Editor.)

Sir,—I am supporting the proposed compulsory control measure which the the Minister for Markets and Migration outlined during his visit to Tasmania. There is an impression abroad that the proposal means "Government Control." Voluntary organisation is fitful, and can never accomplish what is aimed at under this scheme. District organisations affiliated with a central body can do much to the mutual advantage of those in the industry, but only under compulsion can people be made to do the right thing. Agents and buyers look upon this proposal with misgivings, but it may eventually be to their advantage.

To revolutionise a trade to any material extent at the outset would be folly. A go-slow policy will, I understand, be the objective. In export a fundamental is to send away a good article.

Co-ordination amongst all exporting States must, of necessity, be a first step to regulate exports by the various boats, and distribution in the various markets according to their power to absorb at remunerative rates.

It should be possible to render assistance to growers through the rural credits branch of the C. Bank, to prepay freights, purchase case material and other supplies under an approved scheme through shipping agents, and thus effect a large saving. A comprehensive insurance scheme could be formulated, and with the power of the growers behind it, the Board would be a force to be dealt with. The table received from Lieut.-Col. R. E. Snowden, Tasmania's Agent-General in London, giving a summary of the condition in which the various vessels landed their fruit cargoes last season,

is, in my opinion, justification for all the exporting States acting in unison in their overseas business.

As I understand it, there is no desire to overthrow the present system, but to improve it gradually by co-operating with the many excellent organisations now engaged in the shipping and distribution of our fruit.

I hope, under the new regime proposed, every encouragement will be given to increasing the principle of selling f.o.b., eliminating poor commercial varieties, and the sending of only well matured fruit, graded and packed to export regulations. To meet the economic disabilities, it is necessary to organise and follow the lead of large industrial organisations. Producers are slow to do this; thus, as units, they are often losers.—Yours faithfully, H. ROBINSON.

Frankford, Tasmania.

EXPORT CONTROL BILL.

(To the Editor.)

Sir,—It is interesting to see that a vote is to be taken on the question of control of the Apple and Pear Export Industry, and as the basis of the representation on the Board will give the mainland growers a preponderance of power, it may be possible for a Board to achieve something effective in the direction of restraining Tasmania.

It seems to be thoroughly well known that 99 per cent. of all the complaints regarding quality, pack, inferior varieties, immature fruit, undersized fruit, black spot fruit, etc., etc., are due entirely to Tasmania, and if the Board can arrange to have this fruit kept back for local consumption, and ship only the best varieties and quality, then something will have been accomplished in making a name for Australian Apples.—Yours, etc.,

EXPORT GROWER.

Lilydale, Vic.

THE SOURCE OF BRITAIN'S APPLE SUPPLIES.

The people of England and Wales consumed 26 lb. of Apples per capita per annum for the period 1923-25, representing approximately 120 Apples per capita, says a report by the Ministry of Agriculture. Of these 120 Apples, 47 were grown in Great Britain, 37 in the United States, 21 in Canada, and 10 in Australia and New Zealand.

Lawyer: "Well, what shall we ask for—trial by judge or jury?"

Client: "Take the judge, Doc. I've done plumbing for nearly everybody in this town."

Victoria

Fruitgrowers' Convention :: District Shows :: Fruit Crop Report

VICTORIAN FRUITGROWERS' CONVENTION.

Beaconsfield Upper, May 10 to 12.

THE ANNUAL CONVENTION of Victorian Fruitgrowers, called by the Victorian Fruit Council, will be held at Pakenham Upper from May 10 to 12, when it is hoped there will be a large attendance. The official opening will take place at 10.30 a.m., on Tuesday, May 10, and after the presentation of the annual report and financial statement, the following items will be dealt with:—

Fruit Case Items.

"That this Convention request the Comptroller of Customs to simplify the procedure, by which growers obtain a rebate of duty on imported softwood cases used by them for export overseas."—(Executive.)

"That this Convention considers the hardwood case as now supplied to growers an unsuitable container in which to export Apples."—(Beaconsfield Upper.)

"That this Convention request the Apple and Pear Growers' Association to arrange a conference of sawmillers, exporters and growers, with the view of securing a suitable case."—(Beaconsfield Upper.)

"That this Convention protests against any duty being imposed on softwood case timber used for the export of fruit."—(Pakenham.)

"That this Convention ask for the removal of all duties on softwood timber."—(Northern Victorian Fruitgrowers.)

"That this Convention discuss the question of the most suitable softwood timber trees for planting in Victoria."—(Pakenham.)

Orchard Pest Items.

"That the Superintendent of Horticulture be asked to instruct the District Supervisors to exercise stricter supervision over fruit trees in private gardens, and neglected orchards; also that districts be made smaller to allow of more efficient supervision."—(Pakenham.)

"That stated times be fixed suitable to the various districts before which sprayings for codlin moth must be completed, so that an orchardist who had not sprayed before the stated time would be liable to summary prosecution."—(Drouin and Warragul.)

"That the Ministry be asked to appoint a fully qualified man to investigate and find ways and means

to prevent the thrips pest."—(Silvan.)

"That the Commonwealth Council for Scientific and Industrial Research be requested to make special investigations into the thrips pest."—(Pakenham.)

"That the Department of Agriculture be asked to supply traps for root borer free of cost, to growers requiring them."—(Pakenham.)

Brisbane Fruit Marketing.—Discussion on letter received from Committee of Direction, Brisbane, suggesting their appointment as receivers of Victorian fruit in Brisbane, in place of Mr. D. G. Wills.—(Executive.)

Marketing and Transport.—"That the attention of this Convention be drawn to the motion carried at Portland last year re hours of opening markets, and that same be strictly adhered to."—(Silvan.)

New South Wales, Farm and Produce Act, 1926.—(Metropolitan.)

Kerb Markets, and Direct Distribution.—(Metropolitan.)

Experimental Orchards.

"That this Convention press the Ministry to make available sufficient funds for the establishment of a College and Research Station, in different fruit areas of the State."—(Northern Victorian Fruitgrowers.)

"That the Government be asked to co-operate with growers willing to place a definite area of orchard, under the control of the District Orchard Supervisors, for carrying out experiments in manuring, spraying, etc."—(Pakenham.)

Railways.—"That the Railways Department be asked to improve its method of delivery of fruit to consumers."—(Northern Victorian Fruitgrowers.)

"That the Victorian Railways be asked to reduce freight on canned and dried fruits."

"That the Horticultural Branch be severed from the Department of Agriculture, and that a Horticultural Department be established."—(Northern Victorian Fruitgrowers.)

Canned Fruits Industry.—"That an inquiry be made by the Federal Government into the canning fruits industry."—(Northern Victorian Fruitgrowers.)

Orchard Tax. (Metropolitan.)

Grading Regulations.—"That the grading regulations be amended to provide for the following:—(a) That no Apples be exported of a lower grade than Standard; (b) That the

Standard grade include Apples of 2½ in. diameter of colored varieties, provided they are well colored; (c) That 2½ in. be the minimum size for all Apples exported prior to March 1."—(Pakenham.)

Fresh Fruit Overseas Marketing Act.—Discussion on same.

Taxation.—"That all Primary Producers' vehicles, including motor trucks used in transporting their produce from farms to railway stations, or markets, be exempt from taxation."—(Silvan.)

Rural Bank.—"That this Convention urges upon the State Government the need for the establishment of the Rural Bank in the interests of primary industries."—(Bunyip.)

Official Journal.—"That this Convention affirms the advisability of the fruitgrowers having their own official journal."—(Narre Warren.)

Blackberry Pest.—"That this Convention bring under the notice of the Agricultural Department the increasing seriousness of the Blackberry pest."—(Beaconsfield Upper.)

General Business.

During the sessions of the Conference, addresses will be delivered by Mr. Levick (Department of Agriculture) on the Department's investigations into various orchard pests; Professor S. N. Wadham, on "The Scientific Outlook on some Orchard Problems"; Professor A. C. D. Rivett, Chief Executive Officer of the Commonwealth Council for Scientific and Industrial Research; Mr. T. H. Grant, of Beaconsfield Upper; Mr. F. Thomas, M.A., Bunyip, and a representative of the Forestry Commission. Delegates will be entertained at luncheon, and a complimentary social, and on the second day a dramatic entertainment will take place.

In conjunction with the Conference, the Apple and Pear Growers' Association will hold its annual meeting, when a motion will be submitted that "The Executive shall consist of one member from each affiliated Association, and that any new branch formed and affiliating, shall have the right to nominate a member for the Executive."

Delegates and others visiting the Conference are asked to send their names and starting station to the Secretary, Mr. W. H. Carne, Pakenham Upper, immediately, in order that concession fare vouchers may be forwarded. Wives of delegates and visitors may also travel at reduced fares. Those requiring accommodation should notify Mr. C. D. Colles, Secretary, Beaconsfield Upper Fruitgrowers' Association,

Beaconsfield Upper, stating the number of nights required. Accommodation at all boarding houses is 10/- per day.

Trains leave Melbourne for Beaconsfield at 7.40 a.m. and 4.30 p.m. Coaches to Beaconsfield Upper meet the trains; fare, 4/-.

FRUIT CROP REPORT TO END OF MARCH, 1927.

The Superintendent of Horticulture reports:—

Deciduous Fruit.

The prospects of the season's fruit crop have not appreciably altered since the last report.

Apples are yielding better than expected. In some districts a 35 per cent. crop is being harvested when only a 25 per cent. crop was estimated. Generally, growers have done much better than was expected earlier in the season, as the prices realised have been very good. Most of the fruit is of fine quality. Consequent on the light crop of Apples, particular care was required to control codlin moth. Reports from the different centres indicate that the efforts of growers in this direction have been successful.

Pears are yielding satisfactorily, and somewhat better than anticipated.

The late Cling Peaches, viz., Pul-lars, Thiele's and Healesville, are yielding heavier crops than previously estimated, and growers, generally, are satisfied with the returns from these varieties, owing to the high prices ruling.

Passion vines are looking well and carrying a good crop.

Prunes have been harvested and the yield has been up to expectation.

Almonds are nearly all harvested and the yield has been heavy.

The fruit crop, generally, is very free from disease.

We had some very nice falls of rain recently, which may materially help the development of fruit buds for next season's crop. Apart from these rains a very dry season was experienced, and trees, generally, in the non-irrigated districts, although yielding small crops, did not make the growth anticipated.

Viticulture.

Vintage operations are now in full swing throughout the State.

Though premature to accurately forecast the yield, it is evident that the Grape harvest is a bounteous one, especially in the irrigated, dried-Grape growing districts, where a very satisfactory drying season is being experienced.

The Sultana crop is a very heavy one, and in view of the increased area

in bearing, seems certain to constitute a record. Some excellent samples of Sultanas are being turned out. The cold dip is fairly extensively practised at Mildura, if not to the extent at one time anticipated. The modified hot dip is popular with many growers, both at Mildura, and Swan Hill, where the cold dip is not so popular.

The currant crop is a fair one, some very good samples have been processed, though a good many are light in color.

In the North-East the weather has been hot and dry since Christmas. At the Viticultural Station, 83 points fell in January, 59 in February, and 13 (to date) in March.

The crop is a heavy one, though the recent dry spell has been severely felt in some vineyards; especially on hillsides.

Vintage is being conducted under very satisfactory weather conditions. The quality of the wine will be excellent, and the yield a good deal heavier than last year's.

Citrus.

The weather conditions throughout the State have been all in favor of the growth of trees, and the fruit, generally, appears to be fine in quality of rind, and, so far, no splitting of Navel types is noticeable in the groves.

The marketing of Valencia Late Oranges is now almost finished.

Lemons have been selling remarkably well, and, for many weeks, prices have been from 30/- to 35/- per case for first quality fruit. There is a demand always for good quality lemons; the growers of Doncaster, Rochester and Gonn Crossing are now using curing methods with good results on the local market.

RED HILL SHOW.

The 6th Annual Show of the Red Hill Agricultural and Horticultural Society, held on March 23, was well attended and completely successful. The Show was opened by the Minister for Lands (Hon. A. Downward), who congratulated the Society on the fine display.

The championship for three cases distinct varieties Apples, packed for export, was secured by G. Holmes. The most successful exhibitor in the Apple section was R. H. Holmes. Other successful exhibitors included Haig Bros., J. E. Roberts, N. Prosser, G. Laurissen, J. W. Holmes, K. Klein, T. Nash, E. A. Bowing, W. Roberts, W. F. Boe, K. Holmes, F. Nash, W. McKeown, F. Butler, Evelyn Holmes (State Schools Packing Competition).

CASTLEMAINE SHOW.

A special effort was made this year to revive interest in the Castlemaine Autumn Show, which, during recent years, has been much below the standard of which the district was believed capable. That the effort was entirely successful was proved by the splendid displays staged on April 6, which both in quality and quantity made one of the best exhibitions yet held. The Show was opened by the Hon. H. Keck, M.L.C., and warmly supported by the public.

A special feature was the magnificent display of fruit by Harcourt growers. This was staged for exhibition purposes only, and was afterwards sold for the benefit of the Society's funds, with the exception of a basket of dessert Apples, reserved for presentation to the Duchess of York on her visit to Castlemaine.

The children's Apple-packing competition was judged by Mr. J. M. Ward, Superintendent of Horticulture, who expressed his pleasure at the entries, and promised a prize for next year. The class for culinary Apples was won by Jack Douglas, and for dessert Apples by May Milford (one of the scholars who helped win the shield for Harcourt at the last Royal Show).

In spite of the bad season, the flowers on the whole were very fine. There was keen interest in the cottage garden competition, judged by Mr. J. H. Lang, who awarded first place to Mr. A. H. Grant, out of 13 competitors. Everyone spoke enthusiastically of the work of the show officials.

A feature of the Show was the splendid manner in which the various districts worked together to make the show a success. Harcourt, Barker's Creek, Elphinstone, Campbell's Creek, Chewton and Fryerstown, as well as Castlemaine, all contributed their share as exhibitors, while judges were drawn from Bendigo, Kyneton, and Maryborough.

CROYDON SHOW.

The reputation for high quality fruit attained by the Croydon district was fully maintained at the 6th Annual Show on March 25, although the number of exhibits was reduced.

In all classes, the exhibits were particularly well grown, clean and free from blemish, showing careful cultivation. Owing to the general scarcity of fruit of exhibition standard the champion class for six varieties of Apples and three varieties of Pears was not competed for. The

(Continued on p. 211.)

THE TEMPERATURE CONDITIONS IN REFRIGERATED HOLDS CARRYING APPLES.

(By Dr. A. J. M. Smith.)

UNDER THE ABOVE TITLE there has just been published by the Food Investigation Board of the British Department of Scientific and Industrial Research, a report which for some time has been eagerly awaited by fruitgrowers and exporters in Australia. It deals with the investigations carried out by Dr. A. J. M. Smith, who visited this country in 1925. This report is of the greatest interest, since in it

the veil is lifted

for the first time, from some of the mysteries of the carriage of fruit overseas. We now know the worst as regards the temperatures maintained in refrigerated holds on ships—and not only so, but the recital of things as they are is accompanied by many practical suggestions for improvement in the future.

In the introductory paragraphs of the report, a brief survey is made of the position to-day of scientific research in connection with the fruit transport problem. The studies in which the Food Investigation Board have been concerned began in 1923 with the sending to Australia of a small expedition, whose immediate objective was an investigation of the condition known as brown heart in Apples. They were successful in tracing this trouble to its origin, and confidence is re-expressed in this report that so soon as the recommendations they have made—for the universal employment of reliable carbon dioxide indicators on all ships, and for ventilation of the holds whenever the amount of the gas present rises above about 8 per cent.—have been universally adopted by the ships employed in the trade, brown heart will become a thing unknown.

The more recent investigations have been concerned with fresh problems, first among which is the question of the temperatures maintained in the holds. Fruit occupies an anomalous position among refrigerated cargoes, since, unlike meat and dairy produce, it is shipped while still warm, and has to be cooled down on board the carrying steamer. In these circumstances, the ship's refrigerating plant operates under a double disadvantage. In the first place, its actual refrigerating power, more than adequate as it is for the work of maintaining low temperatures when the cargo is already cooled, is often not sufficient to cool down a large cargo of warm fruit with the rapidity which is desirable. In the second place, even where the required gross amount of refrigeration is available, it is extremely difficult, if not impossible, to distribute it uniformly in the desired rate amongst a closely stowed cargo. The outer accessible parts of the cargo become rapidly cooled, but the interior is left warm.

Startling Temperature Irregularities.

The report gives some startling instances, both of slowness of cooling, and of irregularity of temperature amongst the cargo mass. A vessel with the "gird" system of refrigeration loaded in Tasmania with fruit at 56 deg., took ten days to bring the mean temperature down to 40 deg.—a rate of cooling of just over a degree and a half per day on the average. A "screened gird" vessel loaded at 60 deg. managed to attain an average cooling rate of two degrees per day. But a "battery" boat, which was studied late in the season, and which loaded at the exceptionally low temperature of 49 deg., required 16 days in one hold (the smaller), and 22 days in another to reach the final steady mean temperature of 38 deg.

As regards the variation of temperature the data given are even more startling. When thermometers are placed amongst the cargo at different points, it was found that their readings often differed by 10 or 15 degrees—even

towards the end of the voyage. In the early stages, before the fruit has been completely cooled down, the variation of temperature is even greater. Two instances may be chosen at random. In the lower hold of the gird steamer on the tenth day of the voyage the lowest temperature amongst the fruit was 32 deg., the highest—in the centre of the cargo—56 deg.: a variation of 24 deg. In No. 2 hold of the battery vessel on the tenth day, the lowest temperature was 34 deg., and the highest—in the centre of the cargo—was again 56 deg.: a variation of 22 deg. Incidentally, the surprising observation was made that forced air circulation by means of fans, did not appear to have any marked effect in levelling up the temperatures.

These variations of temperature are due mainly to the fact that the streams of cold air which bring about the cooling—whether they are produced by fans, or by convection currents—do not sweep uniformly through the cargo, but tend to follow the paths of least resistance. By an ingenious system

of temperature mapping, it is possible to find out approximately the tracks followed by the air streams, and charts are given in the report illustrating these results.

In all the holds studied, the warmest point was found to be at or near the centre of the cargo. This is the region most difficult to reach by refrigeration. Further, there is another circumstance which complicates the problem. The fruit itself is generating heat all the time it is in the ship, and especially in the early stages, while it is still warm. Thus, in the absence of sufficient refrigeration the central parts of the cargo may actually rise in temperature. This phenomenon was observed both on the gird and battery steamers. In the former the temperature of the fruit in the centre of the hold rose during the first four or five days of the voyage from 56 deg. to 62 deg., although the refrigerating machine was working practically continuously all the time. The battery steamer showed an even more startling result. Loading in wintry weather at the exceptionally low temperature of 49 deg., the temperature of the fruit in the centre of the hold nevertheless rose steadily, in spite of refrigeration, for eight days, to a figure eventually of 57 deg.

It was nineteen days, and the vessel was well on her way to England, before this portion of the cargo had been cooled down again to its original temperature at the time of loading!

Fortunately, the Apple is a fruit which, generally speaking, and for short periods of time, can withstand such wide variations of temperature as these. The cargoes of all the ships studied were regarded as commercially satisfactory.

This is not to say, however, that temperature variations are of no importance. In the first place, the variability in ripeness amongst consignments of Australian fruit, which is so often commented upon by importers on the other side may be due, in considerable measure to this variation in the temperatures at different parts of the holds. It stands to reason that Apples carried, say, at 45 degrees in the centre of the hold must

ripen up more rapidly

than the similar fruit—perhaps from the same trees—which may be carried at 32 degrees near the girds or the cold air trunks.

Secondly, it must be remembered that this variation of temperature means that certain parts of the cargo are always in danger of being frozen. In fact, the ship's engineer is in a constant dilemma from which he cannot escape. If he forces the process of refrigeration he will probably freeze some of the fruit near the cooling pipes or the cold air ducts. If he shuts down the machine to avoid this risk, he may not be able to extract the heat from the centre of the cargo. The most he can do at

present in a big hold, is to maintain the outer boundaries at as low a temperature as he dares, and wait for the slow penetration of refrigeration inwards.

Thirdly, it is emphasised in the report that even in so-called "good" shipments at the present time there is often a proportion of avoidable

damage due to over-ripeness

and similar causes which is probably due, in great measure, to the unfavourable temperature conditions, and the elimination of which would justify very considerable changes in the present methods. And further—and perhaps most important of all—the fear of landing fruit in an over-ripe condition now prevents the cautious grower from shipping kinds which would otherwise be a profitable venture (Williams' Bon Chretien Pears are perhaps a striking example), and the same fear often leads him to ship his fruit in a relatively immature state, with the result that its full flavour and aroma, and sometimes its full size and colour are never attained. With more rapid refrigeration and greater uniformity of temperature, it is probable that fruit could be left longer on the tree and still arrive in England not over-ripe, but with its attractiveness and its value considerably enhanced.

Some Helpful Suggestions.

Granting that more rapid refrigeration is eminently desirable, the question remains of how it can be most economically secured. The immediate answer given by the report is: by altered methods of distributing the refrigeration in the holds.

In this connection a broad distinction may be made between ships employing forced air circulation (by means of fans), as for example in the battery system, and those relying on convection currents as in the gird system. In the first case the attempt is made to drive the cold air by means of a fan through horizontal air spaces between the cases, from side to side of the hold, a distance often of 60 feet or more. This attempt is only partially successful. A downward gravitational drift is superimposed on the initial horizontal velocity, with the result that the cold air tends to sink as it crosses the hold, and a large V-shaped region of the cargo under the hatch receives less than its necessary quota of refrigeration, and consequently tends to show relatively warm temperatures throughout the voyage.

The gird system, on the other hand, relies solely upon the natural tendency of cold air to sink. Surprisingly enough, it appears to achieve results thereby which are at least no worse than those of the other systems, so long as reliance is placed on the roof girds, and not merely on the side girds.

This leads up to the suggestion made in the report that the battery and other systems with forced air circulation should be modified so as to supply cold air at the top of the hold, either driving it downwards, or allowing it to sink naturally by convection.

NEW COLD STORAGE PLANT AT SINGAPORE.

Singapore's inadequate cold storage facilities are to be improved by the erection of a new plant, according to a report by the American Consul at Singapore. The promoters of the company are British, and the new plant is expected to have a capacity of 800 tons, and an ice output of 50 tons per day. This should be of considerable interest to exporters of fruit and other footstuffs. There is only one cold storage plant of consequence

in Singapore at present, devoted mainly to the storage of meats, game, fish, and other staple necessities.

The Empire Marketing Board and Low Temperature Research.

The Department of Scientific and Industrial Research has indicated to the Empire Marketing Board how the scope of the Low Temperature Research Station at Cambridge could be enlarged to the advantage of the whole Empire, and on the advice of the Board a grant not exceeding

In turn, this scheme requires a modification of the methods of stowing the cargo.

Vertical air channels

now become necessary in place of horizontal channels. These are not so easily arranged in stowing the cargo, and the interesting suggestion is thrown out that they should be provided for, in the first instance, in the construction of the fruit case, by means of two small slats nailed one to each side of the case. An illustration of the proposed case is given. The additional expense involved would be almost nil.

Incidentally, in connection with stowage, another interesting suggestion is made to the effect that the

bruising of the fruit,

which is caused by cases being walked over during loading and discharging, could be avoided, to a great extent, if the cases were stowed on end instead of on the flat side. Doubts have been expressed as to the stability of a cargo stowed in this way, but the suggestion is one well worth testing by means of an experimental shipment.

With all possible improvements in the technique of stowage and in the methods of distributing refrigeration, the report is still sceptical as to the possibility of the very rapid cooling of fruit cargoes on board ship, and the alternative of

cooling before shipment

is discussed. Scientific desirability is here met by economic and financial difficulty, but the suggestion is made that the cost of pre-cooling, if generally resorted to, ought with justice to be met by a proportionate reduction of the freight upon pre-cooled fruit, in view of the fact that the overseas steamer would thereby be relieved of the most onerous part of its present task of refrigeration.

A final section is given over to a discussion of the methods of temperature measurement employed on board ship. It is conclusively shown, by a series of charts, in which the ship's thermometer readings are compared with the true cargo temperatures, that the ship's thermometers give little idea of the big range of temperature variation in the hold.

The report urges the use of distant reading thermometers on board these ships, in order that a more reliable index of the temperature conditions may be available.

Incidentally, it may be mentioned that all the observations of temperature detailed in this report were made—and could only have been made—by means of such instruments.

The report, which is illustrated by some thirty temperature charts of actual ship's voyages, is published by His Majesty's Stationery Office in London. In Australia copies may be obtained from Messrs. Albert and Son Ltd., 180, Murray-street, Perth, W.A., and from the offices of Messrs. Gordon & Gotch Ltd. in Melbourne, Sydney, Adelaide, and Launceston. The price is 1/6.

£25,000 in respect of additional buildings and equipment, and an annual maintenance contribution of £5,000 are now to be given. A related proposal, made by the same department and approved by the Ministry of Agriculture, for the establishment at East Malling of a station at which cold storage experiments could be carried out with fruit in bulk, is also regarded favourably by the Board. Further details of this scheme are now being worked out. The Board is also examining the same subject in its bearing on the cold storage of fish.

New South Wales

Citrus Crop Prospects :: Notes from Districts :: The Irrigation Areas.

GRIFFITH, N.S.W.

Mr. J. S. Page, Griffith Producers' Co-op. Co. Ltd., reports on April 11:—

Citrus.—Navels, medium crop, 35,000 bushels; **Valencias**, medium crop, 20,000 bushels (both about the same as last year). **Lemons**, very light, say 4,000 bushels or about half of last year's crop.

Canning Fruits.—The harvesting of the canning fruit crops has been completed, and, contrary to expectations, the aggregate production reached 1,450 tons, made up as follows:—**Peaches**—Golden Queens, 400 tons; Pullar Clings, 1,000 tons; intermediate varieties, 30 tons; **Pears**, 20 tons.

The intermediate varieties of Peaches were a complete failure, and the Golden Queens produced only about half of the previous best year's tonnage, while the Pullar again proved to be the most consistent cropper. The Rutherglen bug, which was very prevalent at the beginning of the harvest, was responsible for rendering about 40 per cent of the Peach crop unfit for canning, and this quantity was disposed of at jam fruit prices.

The whole of the canning fruit from the Mirrool Irrigation Area was sold and forwarded to the Proprietary Canneries, in Sydney, by the Griffith Producers' Co-operative Company.

Grapes.—Black Cornichon Grapes are now being marketed with good prospects of satisfactory yields and returns, whilst the Ohanez variety—the bulk of which has already been sold by the Producers' Company—is moving off as required for shipment to Canada, the East and New Zealand.

Whilst it is not yet possible to ascertain the total of the wine Grape crop, good yields have been obtained from most varieties, with a minimum of wastage, as the weather has remained ideal during the vintage.

New Packing House.

Work has been commenced on the new packing house for the Griffith Producers' Co-operative Company Ltd. Preliminary work included the excavation of over 1,700 yards of earth to form a basement under the main building, the packing floor of which will be on a level with railway cars in order to facilitate the loading of the packed fruit.

The new building, which is 110 ft. by 80 ft., was planned by Mr. J. S. Vagg,

who is also supervising the work of construction, and later the building of the grading and conveying equipment.

When completed, the new house will be capable of dealing with the increase in production to come from a large acreage of Navels and Valencias not yet in bearing.

GLENORIE, N.S.W.

The Citrus crop in Glenorie district is estimated as follows:—**Mandarins**, medium to heavy, according to age of trees, **Common Oranges**, light; **Valencias**, medium to light; **Navels**, light; **Lemons**, medium to light.

I am not in a position to give figures of yield, but would say, compared with last main crop, 1926, Mandarins about the same, quality better; Lemons, say 60 to 70 per cent. of last year's total; Oranges, all varieties grouped, about 50 per cent. of 1926 total.

Passion Fruit give promise of the best crop for some years; the so-called Easter crop is just commencing to ripen, and the vines are still making growth and blossom, which should produce a continuous crop till about the beginning of November.

The district is looking well, as the result of a fall of over two inches of rain a week ago. Owing to the prospects of a light Citrus crop, most growers are growing some vegetable crops for the late market—Peas, Beans, Cucumbers and Tomatoes, which add color and variety to the landscape. Up to the present, returns have not added very much to the banking accounts of the growers, but they are a hopeful crowd, and are waiting for a turn-up.—F. A. Nicolson, Glenorie, 11/4/27.

COOMEALLA IRRIGATION AREA.

Progress of the Settlement.

The Minister for Agriculture (who is also Chairman of the Water Conservation and Irrigation Commission), referring to the Coomealla Irrigation Area, situated on the Murray River, about nine miles from Wentworth by road, points out the very satisfactory progress which has been made since settlement began about May, 1926. At

June 30 of that year, 23 blocks had been taken up, and the number has now increased to 73, of a total area of 1,185 acres. Of this, 757 acres have been cleared and 527 planted, mainly with Sultana vines and Citrus.

When it is considered that this development is practically the result of one year's operations, it will be seen that the settlers have lost no time in making sure that the holdings shall be fully productive as early as possible.

In the majority of cases, cuttings and not rooted vines were planted, and it is satisfactory to know that in some cases over 90 per cent struck.

The soil is a rich chocolate loam, timbered with Pine, Belah, and Sandalwood, and has a limestone foundation, ranging from the surface from two feet to ten feet. The average area of the farms which are all suited for horticultural purposes, is about 17 acres, and, in addition to these, residential holdings of an area of about two acres each have been provided.

Two bridges for railway and vehicular traffic are being built across the Murray river, one at Mildura, and the other at Curlwaa, which will bring both the Curlwaa and Coomealla settlements on the New South Wales side of the river within measurable distance of direct rail communication with Melbourne.

At present the nearest railway station is at Yelta, which is about four miles from Coomealla, and about one mile from Curlwaa. Construction work has been commenced on a road leading from the bridge at Abbotsford (Curlwaa), and it is understood that the road between Curlwaa and Tucker's Creek, about 1½ miles, will be a bitumen-coated one. The Coomealla settlers are looking forward to the day when this road will be extended to their settlement. A public school teacher is now resident at Coomealla, and at present classes are being held in a building provided by the Commission. A site has been selected for a permanent school building, and it is hoped that before long the building will be erected. A post office site has been selected, and the school teacher is to be appointed Postmaster for the time being.

From previous experience in these localities, it has been found that where water is supplied for irrigation purposes in earth channels, there is likely to be trouble from seepage. This has been avoided in the case of Coomealla by lining all the channels with concrete or mortar lining, while every farm has been provided with a channel to provide efficient drainage of the land.

There are now available for application on the Coomealla area, 52 horticultural farms, and 23 residential holdings of two acres, which can be taken up either as purchases in fee simple, or as leases, and particulars of these can be obtained from the Manager, Coomealla Irrigation Area, via Wentworth, or from the Secretary, Water Conservation and Irrigation Commission, 247 George-street, Sydney.

A township has been designed to serve the needs of the Coomealla Settlement, and on April 27 an auction sale of town land blocks will be held, particulars of which can be obtained from the Manager of the Coomealla Area, or the Secretary to the Commission, in Sydney, as in the case of irrigation farms.

Already inquiries in regard to these blocks have been received from Wentworth, Melbourne, and various parts of Victoria.

CURLWAA IRRIGATION AREA.

The Minister for Agriculture (Chairman of the Water Conservation and Irrigation Commission), referring to a report received by him as to the Curlwaa Irrigation Area, states that good crops of **Apricots** have been dried and satisfactory samples obtained. Heavy crops of **Peaches** have been harvested, the late varieties of which have just been dried. Crops of **Pears** have been fair, and large quantities have been disposed of as fresh fruit at Broken Hill.

Among vine fruits, **Currants** and **Sultanas** have yielded well, and deliveries are being made to the packing houses. The cold dip for Sultanas continues to find favor with growers.

Citrus crops promise to be fair, and the Curlwaa Packing Society has installed a fumigation plant, which will be available for all growers, and should play an important part in ensuring uniformly clean crops.

During the three months ended March 31, 1927, the weather conditions were mild. The rainfall in January was 27 points, in February 9 points, and in March 36 points.

The fourth irrigation of the season was commenced on January 10, and terminated February 2, approximately 1,527 acres being watered. The fifth irrigation commenced on February 11 and terminated on March 4, approximately 1,381 acres being watered.

The season's vine crops were generally heavy and the weather very satisfactory for drying purposes.

A fumigating plant has been acquired by the local Settlers' Co-operative Packing Company, and operations

amongst the Citrus trees have had a desirable effect.

In accordance with the request of the Settlers' Progress Association, the Water Conservation and Irrigation Commission has decided to proceed with the reforming of the main road through the Settlement from the Abbotsford-road to the boundary of Wentworth. It is understood that the Wentworth Council is in negotiation with the Main Roads Board with a view to completion of the main road into Wentworth, and with the completion of the bridge now under construction across the Murray River at Abbotsford the means of transport for the produce of the Settlement will be much improved.

BURRINJUCK DAM—RELEASE OF WATER.

Mr. Dunn, Minister for Agriculture, who is also Chairman of the Water Conservation and Irrigation Commission, states that during the past few weeks a number of applications have been received for the release from Burrinjuck Dam of an additional supply of water for the lower Murrumbidgee and Yanko Creek, and also to freshen the Murray River near Mildura, where the salt content, owing to the low flow, has been somewhat high for irrigation purposes. The low state of the Murrumbidgee River, Mr. Dunn states, is due to natural causes. For some time past the discharge of the Murrumbidgee, and of its principal tributary, the Tumut River, have been very low, and a fair stream has been released from Burrinjuck Dam to meet the needs of the Irrigation Areas, and supplement the flow of the lower river, with the result that the level of the water in the dam has been steadily falling.

A contract is in progress for the construction of a weir across the Murrumbidgee River, below the off-take of Yanko Creek, and during the next few weeks this work will be at a critical stage, owing to the risk of any rise in the river flooding the coffer dam, and causing damage to the unfinished structure. The Commission, therefore, whilst most desirous to assist, regrets that it cannot see its way during the present month to substantially augment the discharge from the Burrinjuck storage, though some slight relief will, it is hoped, be given to the lower river by a small additional discharge which has been authorised, and which it is proposed to take into the Main Canal, and to release to the Murrumbidgee River below the site of the weir works.

After this month, if no rain falls,

consideration will be given to the release of a much larger quantity for the needs of Morundah and the Yanko Creek.

With regard to the risk of floods at Wagga, Mr. Dunn adds that there is no reason for any alarm on account of the level of the Burrinjuck storage, which is now some 27 feet below the crest of the spillway weir, the reserve storage, which would have to be filled by any flood before any water could flow over the spillways representing no less than 12,300 million cubic feet, or between three and four times the total capacity of Cataract Dam.

ANSWERS TO CORRESPONDENTS.

Apple Root Borer.

J. T. Wright, Narre Warren, Vic., writes:—I would like you to answer, per medium of "Fruit World," the following questions: (1) Remedy for root borer in Apple and Pear trees; (2) A good early eating Apple to plant? Could Carrington be recommended? Something that will stand wind.

Answer (by J. M. Ward, Superintendent of Horticulture).—The usual method adopted for controlling this pest is by trapping the beetles, and spraying trees with arsenate of lead. The latter is usually applied at the rate of 5 lbs. to 80 gallons of water, but, in my opinion, better results would be obtained if more frequent applications at a weaker strength (say 4 to 80) were made, choosing warm evenings for its application, as it is known that the beetles drink the liquid from off the leaves.

The zinc bands should be regularly examined, and all beetles collected. Instead of killing the beetles collected, as is usually done, they should be kept alive and fed with leaves, as this would allow the *Perilitus* wasps to emerge from any beetles that may have been parasitised by this insect.

Sulpho-carbonate of potassium, when applied to the soil during the winter months, when the ground was saturated, gave better results than other soil fumigants that have been applied.

Lime applications, one ton to the acre (fresh air slaked) has proved of benefit to trees that have been attacked by these beetles.

Whilst Carrington Apple is a good early Apple that stands winds well, and is, in addition, practically blight proof, I do not favor the planting of it in Victoria to any extent; a few, for early marketing, may be an asset for Melbourne markets.



Dried Fruit Department

DEHYDRATION AIDS QUALITY OF PRUNES.

PRUNES of equal or better quality, larger size and greater per acre yield are produced by dehydration over the sun-dried method, says A. W. Christie, Assistant Professor of Fruit Products, University of California, in A Bulletin No. 404, "The Dehydration of Prunes" recently issued by the College of Agriculture.

"It can be fairly said," says Mr. Christie, after comparing the methods, "that dehydration produces Prunes of equal or better quality than the sun-dried, generally results in a greater yield and size of Prunes, provides insurance against rain damage losses, and the total cost of operating an efficient dehydrator, including fixed charges, need be no greater than for a dry yard of equal capacity. Consequently, growers who can finance the installation of a dehydrator, or who can have their Prunes dehydrated at a reasonable charge, will find it to their financial advantage to adopt this modern method of drying, as many growers already have done."

The bulletin goes into the subject of dehydration thoroughly, telling of its development, comparing it in detail with sun-drying, gives principles and methods of operation, and gives advice on calculating dehydrator requirements and the selection of the equipment.

Says Professor Christie: "California is the leading State in the United States in the production of Prunes, supplying the greater part of the domestic consumption in the United States as well as a considerable foreign exportation. The total acreage of Prunes in 1925, exclusive of the plantings of that year, was 198,572 acres, of which 73.6 per cent. was in bearing. The production in 1925 amounted to 145,000 dry tons, and as the more recent plantings come into bearing, the annual production will increase considerably.

"Unlike most fruits, Prunes are rarely sold or canned fresh, but are marketed almost entirely in the dried

form. Therefore, drying is a most important operation, and the profitable production of dried Prunes is dependent on successful drying of the crop."

In ending the bulletin, he says:—

"In conclusion, the following summary of steps in the dehydration of Prunes may be considered as the present standard, based on years of cumulative experience:—

"1. Lye dip as soon after harvesting as possible and rinse in fresh water.

"2. Separate into two or more size grades when traying.

"3. Enter in cooler end of dehydrator, preferably of air-blast type, at 120 to 140 degrees Fahrenheit.

"4. Finish at a temperature not exceeding 165 degrees Fahrenheit and a humidity not exceeding 25 per cent.

"5. Store the thoroughly dried Prunes in bins for at least two weeks before delivery to packing house, turning if examination reveals inadequate equalisation."

DEVELOPING THE CANADIAN MARKET FOR DRIED FRUITS.

Arrangements have been made by the Commonwealth Dried Fruits Control Board for Mr. R. A. Haynes, a director of Messrs. G. Wood, Son and Co. Ltd., Adelaide, to visit Canada on behalf of the Board, with the object of endeavoring to increase the trade with Canada in dried fruits.

Mr. Haynes left Sydney by the "Makura," on April 21. He has been closely associated with the dried fruit industry for many years, and combined with extensive business experience, he should be admirably fitted to develop the Canadian market.

Canada allows a preference of 3 cents per lb. (approximately £14 per ton) on Australian fruit.

SULTANA CROP ON THE MURRUMBIDGEE IRRIGATION AREAS.

Mr. W. F. Dunn, Minister for Agriculture (who is also Chairman of the Water Conservation and Irrigation Commission) states that very satis-

factory reports have been made to the Commission with regard to the Sultana crop on the Murrumbidgee Irrigation Areas.

The drying season was a good one and satisfactory yields have been obtained. The sample is generally of excellent quality.

In some quarters it had been felt that there was some doubt as to whether the highest grade of Sultanas would be produced on the Murrumbidgee Irrigation Areas, but that doubt has now been dispelled. As a matter of fact experts from Mildura recently visiting Griffith, Leeton and Yenda, were most favorably impressed both with the quality and yields.

UNITED STATES EXPORTS OF DRIED AND CANNED FRUITS.

Figures just released by the United States Government show that during the year 1926 exports of dried and canned fruits from that country have assumed vast proportions.

Raisins.—During the year mentioned no less than 141,037,750 lbs. of Raisins were shipped abroad, Great Britain, the principal customer, taking 44,922,763 lbs., followed by Canada, with 36,808,318 lbs.; Germany, with 15,888,211 lbs.; Netherlands, with 14,170,653 lbs.; Denmark, with 1,501,589 lbs.; while other European countries purchased 9,085,761 lbs. Other important markets for American Raisins were China, who purchased 4,427,967 lbs.; Japan, 2,972,439 lbs.; and New Zealand, which took no less than 5,513,192 lbs.

Canned Fruits.—With regard to canned fruits the figures disclose that no less than 223,749,417 lbs. of this commodity were exported. As in the case of Raisins, Great Britain is the principal customer for American canned fruits, taking no less than 166,540,396 lbs.

The next largest buyers of American canned fruit were Canada, 13,099,054 lbs.; Germany, 6,223,676 lbs.; and France, 5,774,546 lbs. Other countries to which fairly large quantities were shipped were Dutch East Indies, 3,102,388 lbs.; Japan, 1,013,701 lbs.; Philippine Islands, 1,073,622 lbs.;

British India, 1,232,892 lbs.; China, 1,405,123 lbs.; Belgium, 1,382,177 lbs.; Netherlands, 2,907,394 lbs.; New Zealand, 479,094 lbs. Of the 223,749,417 lbs. of canned fruit exported, Apricots accounted for 32,360,350 lbs.; Peaches, 66,599,128 lbs.; Pears, 51,227,441 lbs.; Pineapples, 31,120,905 lbs.; Apples, 14,318,506 lbs.; Cherries, 1,916,664 lbs.; Prunes, 3,460,671 lbs.; and "other fruits," 22,745,782 lbs. Other dried fruits exported during 1926 were:—Apples, 28,327,281 lbs.; Prunes, 158,076,067 lbs.; Peaches, 5,334,909 lbs.; and Apricots, 15,955,464 lbs.

PRICES FOR VINE FRUITS.

The Australian Dried Fruits Association announced recently that the new season's prices for vine fruits would be as follows:—

Currants.—4-crown, single box, price 7½d. per lb.; 3-crown, 7d. per lb.; 2-crown, 6½d.; 1-crown, 6¼d.; M.M. (for manufacturers only), 5½d. per lb.

Sultanas.—4-crown, single box, price 9½d. per lb.; 3-crown, 9¼d.; 2-crown, 9d.; 1-crown, 8¾d.; plain (for manufacturers only), 7¾d.

Lexias and Walthams.—5-crown, single box, price 7½d. per lb.; 4-crown, 7d.; 3-crown and 2-crown, for seeding only, 5½d.

Muscatsels.—6½d. per lb.

These prices are for Adelaide, Melbourne, Sydney, Newcastle, and producing centres plus the usual additions to prices for shipment to other ports.

LAST YEAR'S DRIED FRUIT EXPORTS.

Replying to a question in the House of Representatives on March 23, the Minister for Markets and Migration (Mr. T. Paterson) stated that the quantities of Sultanas, Lexias, and Currants produced and exported during the 1926 season were:—

	Production. Tons.	Export. Tons.
Sultanas	19,385	13,105
Lexias	3,011	772
Currants	12,636	9,053
Totals	35,032	22,930

Root Rot of Fruit Trees Due to Armillaria Mellea.

In an article on the above subject in the Journal of the Department of Agriculture, Western Australia, Mr. W. M. Carne, F.L.S., Botanist and Plant Pathologist, states that the principal and most important source of infection of fruit trees by the above fungus is the presence in the soil of roots or stumps of native trees, particularly the Marri or Red Gum (*Eucalyptus calophylla*)—a species which is extensively planted on account of its beauty when in flower. This tree has its roots commonly affected with the parasite, which has no apparent bad effect upon its growth. Infection is most likely where land is planted, from which green Marri has been recently cleared. Wattles are also very liable to attack and suffer considerably.

Classified Advertisements.

Wanted and For Sale.

Prices for Advertisements under this heading are as follows:—

Casual Advertisements, one to six words, 2d. per word. Contract Advertisements, twelve months, 1½d. per word.

YOUNG MAN, late A.I.F., strong, healthy, desires a Position as Orchard Manager; life experience of growing and exporting fruit; Apples a specialty; also knowledge of irrigation and engineering; first-class references.—Apply "Jonathan," c/o. "Fruit World," Melbourne.

EXPORT OF OHANEZ GRAPES.

Experimental Shipments.

Following on the satisfactory results of experimental shipments of Ohanez Grapes to London last season, in sterilised cork dust, a further shipment has been made this year from the vineyard of Mr. F. Parker, Lemnos, Shepparton. Early in April a demonstration of packing the Grapes for export was given at Mr. Parker's vineyard by Messrs. Basil Krone, Fruit Packing Instructor, J. Gregory, Assistant Fruit Packing Instructor, and G. B. Tindale, Cool storage Experimentalist of the Department of Agriculture.

This year a departure has been made in the forwarding of 30 crates, each containing eight cartons of 5 lb. weight. In the cartons each bunch is wrapped in tissue paper, wood wool being used to fill up empty space in the carton, so as to render the packing firm. The Grapes were cooled to a temperature of 34 deg. and shipped to London by the "Mooltan." It is expected the danger of damage will be minimised by the carton system, as defects so caused will be confined to a particular carton. The enhanced prices obtainable for Grapes which reach the London market in good condition compensate fully for the extra labor and expense involved. The experts are very hopeful that, in this way, a lucrative export trade in Victorian Grapes may be established.

It is reported that a firm of French nurserymen has recently placed on the market "fruit bags" made of a kind of celluloid paper, which serves to protect fruit against bird and insect attacks. They do not tear in the rain, and permit some of the sun's rays to pass through and so give the necessary ripening color to the fruit.

**Sell your Dried Fruit in the
Best Market**

J. YOUNGER

The Independent Dried Fruit Merchant

22 Market Street - - - Melbourne

Will buy your fruit outright, or will export on your behalf at a total Export Cost of £12/10/- average, and a Cash advance of two-thirds London Price.

Commonwealth quota purchased for Cash at Highest Current Rates. No commission. Bank reference and all particulars on application.

BUYER OF ALL EVAPORATED FRUITS

New Zealand.

Crop and Market Reports :. Control of Weeds

INSECT CONTROL OF NOXIOUS WEEDS.

Dr. Tillyard's Report.

(Continued from p. 154, April issue.)

The first portion of the report by Dr. R. J. Tillyard, F.R.S., head of the biological branch of the Cawthron Institute, published in our last issue, outlined the proposal for control of noxious weeds by insect enemies, and summarised the present position.

Blackberry.

The principal insects attacking the Blackberry are then dealt with, and the following general summary gives the conclusions:—

"From the above it will be seen that a very strong attack can be developed by means of insects against the Blackberry. The main weight of the attack must be directed towards destruction of the crowns and stems, with a subsidiary attack on the food-supply of the plant by destruction of the leaves. The weak spot of the attack is the absence of reliable species to attack the flowers and young fruit, but quite probably future research may remedy this.

"Allowing for the admitted toughness and rapidity of spread of this very vigorous plant, I am still of opinion that, under the favorable conditions available in New Zealand, control of Blackberry can be obtained through its insect enemies, provided it is understood that such control carries with it a menace to Raspberry requiring a single spring spraying with arsenic, and a certain amount of watchfulness in cutting out infested stems each winter when pruning. Even if we admitted *Coroebus rubi*, which I regard as the most promising of all Blackberry insects, the menace to Roses would be infinitesimal, and would probably be confined to occasional attacks on the water-shoots of Frau Karl Druschki.

St. John's Wort.

"This weed is more especially an Australian problem, but the possibility of its becoming a serious pest in the North Island of New Zealand and elsewhere in the Empire must not be lost sight of. In the Ovens Valley, in Victoria, it has greatly increased in size and vigor, and has put a very large area of land out of cultivation.

"The plant presents a special problem owing to the general lack of the

knowledge of the insects which feed on it. *Chrysomela varians* and *Chr. hyperici* attack the leaves, both as larvae and as beetles; neither species is known to feed on anything else. *Anaitis plagiata* (treble-bar moth) and its close ally *A. effumata* are geometrid moths whose caterpillars attack both plants, but are so abundant in places where St. John's wort is rare that it seems highly probable that they do actually feed on other plants also. Several species of *Perisissia* form galls on the plant, especially *P. hyperici* and *P. serotina*. A number of Tineoid moths attack the leaves and shoots, especially *Depressaria hypericella*, *Cracilaria auroguttata*, *Epinotia hypericana*, and *Aristotelia atrella*.

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable "Peachbloom," Dunedin.

"Thus it will be seen that, provided the introduction of these insects can be made with safety to other plants of economic value, there is a strong probability of the insect enemies gaining complete control. The policy of attempting to control this weed biologically is a sound one, provided that sufficient work is done first in England to ensure the safety of the species later imported into Australia."

Other plants which are either a pest at present, or likely to become so, are also dealt with by Dr. Tillyard.

N.Z. FRUIT CROP REPORTS.

The Director of the Horticulture Division has received the following reports from his officers regarding orchard and marketing conditions at the end of March, 1927:—

Auckland.—Late Apples are in average to full crop, and, apart from hail injury, are in good clean condition. Oranges and Lemons are showing well and developing for a good average crop. Poorman Oranges will soon be in full supply, but crop not quite as heavy as last season.

Hawkes Bay.—Apples: Average crop late varieties. Sturmers now being harvested. Rain required to swell Dougherty. Severe gale on March 21 caused severe loss of Delicious, Ballarat and Nelis Pears. All local cool storage space is likely to be filled.

Nelson.—Apples: Midseason varieties nearly all picked. In some instances size did not come up to expectations, and export totals will be slightly affected. Sturmers, Statesman, Dougherty and Rokewood are very fair and should turn out a good quantity for export. Black spot was troublesome in some orchards, particularly on Sturmers. Pears: Nearly all gathered. Crops have been fairly satisfactory, and heavier quantities are being exported than previously.

Canterbury.—Apples: Crops generally heavy, particularly Delicious. Prices inclined on the low side. Nectarines: Practically finished; good prices all through. Plenty of young wood for next season. Peaches: Few late varieties still to be gathered. Prices have shown considerable variation. Pears: Supplies plentiful; prices rather low. Fruit fairly clean. Winter Nelis showing much better than usual.

Otago and Southland.—Apples: Short crop early varieties; average crop late varieties. Fruit generally in fair average condition. Considerable amount of hail blenheim. Black spot commenced to show up in one or two orchards. Peaches: Average crop late varieties. Pears: Average crop, fruit generally in fair average condition.



(GIBBS BRIGHT & CO.,—See Page vi).

The Autumn Clean-Up in the Orchard

Combating Codlin Moth, Leaf Curl and Brown Rot.

Useful Hints from American Practice.

MJCH can be done towards lessening the numbers of insect pests and the damage they cause by a thorough cleaning-up in and around the orchard in the autumn, though, of course, this must be supplemented at all seasons of the year by the judicious use of sprays and dusts.

One of our worst pests is the codlin moth, and much can be done towards its control by proper attention in the autumn. The following suggestions from the "American Fruit-grower Magazine," are sent in by Mr. Jas. H. Lang, of Harcourt, Victoria, and will prove of interest.

(Note.—August in America corresponds to February here, April to October, November and December to May and June.)

Codlin Moth.

The codlin moth, or Apple worm, is one of the insects which has been increasingly abundant during the past several seasons and has caused far more than the usual amount of damage. As is well known, this insect goes through the winter in silken cocoons spun mainly under the loose bark on the trunk and larger branches of Apple and Pear trees. They also shelter in crevices in the packing shed, and to prevent the escape of the moths in the spring, the overwintering worms in the baskets, crates, etc., may be killed by placing the containers in a small tight room and heating to 125 degrees Fahrenheit for a period of three hours. This will kill all the worms in the baskets and can usually be done at small expense. The baskets may be fumigated with cyanide if the heat treatment cannot be given.

Another effective means of controlling codlin moths is by collecting and killing the worms that collect under the bands placed around the trees. After the middle of August, very few of the worms that come down the trees transform to moths during the same season. If trees are scraped about the middle of August and banded with a 6 inch strip of common tar paper, most of the worms coming down the trees will collect under these bands and there spin their cocoons in preparation for passing the winter. If bands are put on the trees about the middle of August, the worms will collect under them, and it is not necessary to kill the worms under such bands until November or December, after the Apples have been

picked and the other fall work around the orchard has been completed, or, in fact, at any time before the first of the following April.

For banding, black tar paper bands about six to eight inches wide have been found superior to burlap. Where such bands have been tried side by side in orchards, the tar paper bands have attracted nearly twice as many codlin moths as were found under the burlap bands. A single thickness of tar paper is sufficient. The ends of the band should be lapped about three inches and can be held in place by a single large bill-poster's tack. The tar paper bands are cheaper than burlap, much easier to put on, and the worms under them are more easily located. The bands may be prepared by sawing a roll of tarred paper into the desired width with a hand saw.

T. STOTT & SONS
Fruit Merchants
 Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

At least 50 to 75 per cent. of the worms that would normally pass the winter in the orchard may be collected and killed under such bands. In order to get the maximum number of worms under the bands and the real benefit from their use, all loose bark must be scraped from the trees to which they are applied. This may be done with a floor scraper, a section of iron hoop or an old hoe. Care should be used not to scrape into the live bark and to remove all the loose bark scales as high as one can reach. If these bark scales are not removed, many of the worms will seek shelter under them instead of going under the bands. The expense of banding a tree will not run over five or 10 cents, including the material used for banding.

Codlin moth infestation has been increased in some orchards by permitting the accumulation of piles of cull Apples in and around the orchard. It is quite a common practice to haul the culls from a packing shed to some gully or wash in the orchard and dump them, allowing them to remain and rot over winter. It frequently happens that from 10 to 50 per cent. of these culls contain larvae of the codlin moth, most of which will complete their growth in the Apple and crawl to nearby trees or other shelters, where they will spin their cocoons and go through the winter. Where the codlin moth is increasing as it is at the present time, it is highly important that we do not permit the accumulation of cull Apples close to or in our orchards. The culls should be dumped at some distance from the orchard, fed to hogs or buried to a depth of a foot or more to prevent the escape of the codlin moth larvae which they contain.

Leaf Curl.

A further note deals with leaf curl as follows:—

The very best time to control leaf curl is in the autumn after the leaves fall and the season's growth has hardened. The fungus causing curl winters around the buds so that a fungicide applied any time during the dormant season will be satisfactory. Spring spraying, as formerly practiced, is unsatisfactory, since there is difficulty in getting on the land and there is the danger of not getting the spray on before the buds swell. After the buds swell, it is too late to control leaf curl. Lime-sulphur is the most effective fungicide for curl, although Bordeaux oil may be used if mites are present. One application is sufficient. Hit every bud if complete control is expected.

Brown Rot.

The common summer disease of the Peach is brown rot. One of the chief sources of the rot fungus spores in the spring and summer is the old mummified Peaches from the previous year. In many Peach districts the old dried fruits which cling to the tree are more dangerous than those on the ground. In either case, however, destruction of these old mummies, whether hanging or fallen, is emphatically a point in sanitation not to be overlooked. Some growers knock the hanging mummies from the tree during the pruning operation. Early spring ploughing and stirring of the soil prevents the spores from shooting. Others prefer to gather all mummies, as far as possible, and remove them from the orchard. This latter practice is to be commended, especially if the orchard is not cultivated.

Australian Canned Fruits in Overseas Markets.

Some Outspoken Criticism.

IN HIS RECENT TOUR of Great Britain and America, the Hon. W. F. Dunn, Minister for Agriculture in New South Wales, made investigations into the marketing and condition of Australian products, and collected a large amount of valuable information. In regard to canned fruits, his report (published in the "Agricultural Gazette") is as follows:—

As a result of my investigations overseas, I can with pleasure state that a keen discrimination has been manifested in Australia in the matter of selection of varieties of fruit of all kinds intended for export. I can further, with confidence, state that no blame whatever attaches to the grower, for Australian fruit generally is admitted the equal of the best obtainable anywhere—in the raw state. My eulogies, however, begin and finish there. The old adage that "God sends the food and the devil sends the cooks" very nearly expresses the result of my careful inquiries into the disabilities we suffer under when facing competition in the British markets.

The average grower contributes everything required of him towards meeting the British market's demands, but from that stage to the point of landing the goods in Britain we have nothing to be proud of; on the other hand we have much to chide ourselves for, since our methods of packing can be summed up as nothing short of crude and slipshod. I propose to justify this harsh statement, and the best and most practical way, though perhaps odious, is by comparison.

Selection (Grading).

Let me commence with selection (grading). I have "cut" a can of Australian dessert Peaches and other fruits, and found halves of most perfect fruit mixed with others of similar quality, which have been bruised, and this portion, having been cut away, leaves the contents very uneven; the whole pack thus suffers by comparison with foreign samples. Again, under-ripe fruit and green butts are frequently found in a can of otherwise well-graded fruit.

On the other hand, when a can of Californian has been "cut," each and every half of the fruit has been a perfect specimen. The Californian best grade canned fruit, to my mind, has no peer at present, but I am satisfied that with the same meticulous

care and attention manifested in the important department of packing, Australia can easily hold her own with California, and moreover obtain as good a price for her produce, once confidence is established.

Grading of canned fruit in California is carried to a fine point of perfection, as witness the following gradings:—

- (1) "Fancy."—Superlative quality and generally specimen fruit in heavy syrup.
- (2) "Choice."—Similar to the first named, hardly as large, but perfect.
- (3) "Standard."—Well-graded fruit, free from blemish, but lighter syrup.
- (4) "Seconds."—Of poorer quality, but well graded and lighter syrup still.
- (5) "Water."—Similar to "Seconds," but fruit packed in water.
- (6) "Pie."—Over-ripe fruit, free from bruises, under-ripe fruit and culls packed in water.

Dessert berries, such as Raspberries, etc., are generally graded as "Choice," "Fancy" quality being reserved for the harder fruits that will not "mush" and will invariably turn out perfect.

Containers.

Now, as to containers, the greatest care and attention are paid by the Americans to this very important feature. The leading brands of berries and fruits are packed in what is known as the sanitary can. Instead of the interior being white, it is of a pale golden color. Peaches, Pears, and other similar fruits are generally packed in what is known as "two and a halves," but "Fancy" and sometimes "Choice" are in "threes," with berries in "twos." Additional to this, these fruits are packed also in "individuals" (ones) for certain trade, both "talls" and "flats," sufficient for a dessert for two, which is very economical.

Gold lacquer of good quality and pale color lacquering, carefully done, is the rule, for the outside of tins of Californian. This enhances the appearance of the can, and when goods have to be kept any length of time helps to prevent "pitting" of the cans and consequent loss.

Labelling.

Where California is profligate in her attention to this feature—a most important one, and short of quality

the greatest asset to the shopkeeper—Australia, I should say, in comparison, considers it hardly worthy of notice. Take any of the leading American brands; for instance, that of the Californian Fruit Canners' Association; the labels used are worthy examples of the artists' and lithographers' art. Our productions in this department can be given no better appraisal than an attempt from a kindergarten. The Californian packer realises that after lavishing all the care and attention on the contents of the can, he must have his goods attractive for the shelves, realising that the label (with the quality behind it) plays a great part in selling the goods. He carries this latter feature to the point that he even takes into consideration the effect of the sun on coloring of the labels, realising that exposure to the light fades them; consequently he seeks depth of contrast in his color scheme. His recognised agents, again, are kept supplied with new labels of all his grades and varieties, enabling the latter to strip labels that have become soiled for various reasons (sometimes as a result of coming into contact with "blown" cans, the juice from which soils some of the contents of the case in which the "blown" has been found). With a view to giving further protection in this direction some of the best canners neatly wrap each can in a kind of waterproof paper known as "parchmyne," a paper of stout body having the appearance of a thin tracing paper. I am satisfied that all this attention to detail is the key to the Californians' success.

Cases.

We are not as happily placed as California for timber, and consequently we labor under a disadvantage, but I am satisfied that all the attention possible is not given to casing and branding, as in California. The American cases alone are a greater advertisement. Made of clean white wood, the brand is burned cleanly and deeply in on each end of the case, generally monopolising the whole of both ends, while the shipping marks on the tops of the cases are small but cleanly stencilled, and, above all, neat. Make your own comparison of these details with our own export cases.

Lastly the strapping. Wiring has its advantages, but strapping (hooping) to my mind is preferred by the shopkeeper. It is easier to take off, permitting him to empty the cases without in any way disfiguring them—a feature, since he sometimes uses them to deliver or rail away groceries, or alternately sells them: the case still remains an advertisement.

Show Cards.

The leading packers supply beautifully illustrated booklets, showing brands and giving full particulars of their different packs with a view to educating the grocer, and they also issue to clients, through the agents, attractive show cards. Small tins loaded with sand, the size of a large cotton reel, is an idea which has been used for advertising purposes. These are exact reproductions of the commercial package. Given to customers, they generally find their way into the nursery for the children to play "shop" with, which idea carries its own suggestion.

I could go on at length, but I think I have said enough to merit your thinking that we have much to do before we can compete on an equal footing with our competitors in California.

IMPERIAL FRUIT SHOW.

Classes for Canned Fruits.

IT HAS been decided to hold the next Imperial Fruit Show at Manchester from October 28 to November 5 next. The Secretary advises that a meeting was held in London recently to discuss what classes of fruits should be included in the Empire Canned Fruits Competition. There were present representatives of the Dominions in London and of the United Kingdom Canned Fruit industry. The meeting strongly recommended to the Imperial Fruit Show Committee that the following classes for Canned Fruits should be arranged for:—

1. 6 one-gallon cans of Apples.
In Cans.
2. 1 standard market case of Pears.
3. 1 standard market case of Plums.
4. 1 standard market case of Damsons.
5. 1 standard market case of Peaches.
6. 1 standard market case of Apricots.
7. 1 standard market case of Pineapples.
8. 1 standard market case of Raspberries or Loganberries.
9. 1 standard market case of Gooseberries.
10. 1 standard market case of Strawberries.
11. 1 standard market case of Currants.
12. 1 standard market case of Cape Golden Gooseberries.
13. 1 standard market case of Grape Fruit.

Jams.

A standard market case of three dozen 1 lb. tins of various jams, to be

made entirely with British fruit and British sugar.

Prizes.

Gold, silver and bronze medal diplomas, but if more than four entries in any class, the award to consist of the actual medals.

This question will be discussed by the Committee at an early meeting, and a schedule of the classes and prizes, etc., will be printed at once and distributed broadcast.

The Committee is particularly anxious that Australian canners should send forward as many entries as possible.

Clifford Barnsbee

Export & General Agent
Display House, 323 Bourke Street
MELBOURNE

Sole Representative in Victoria
and Tasmania for
MORGAN & WILMINGTON,
Turbot Street Fruit Exchange,
Brisbane.

Reference.—Primary Producers'
Bank of Australia.

B. F. E.,

B. P. BROADBENT,
City Market, Sydney.

Reference.—E. S. & A. Bank,
Haymarket.

Also "Elephant" Brand Spray,
Blackburn Casemaker Pty. Ltd.,
and Wrapping Paper.

Agencies in
Covent Garden, London, and
Germany.

'Phone: Central 1837.
Cables—"Finson," Melb.

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention

Account Sales and Cheques despatched
immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative.

Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

No Wonder Adam Fell.

An old Scottish gardener went one day to an exhibition of pictures in London. Among them was one labelled "The Fall." The gardener surveyed this so intently that someone asked his opinion of it. "I think no great things of it," was the reply. "Why, sir, Eve is tempting Adam with an Apple of a variety that wasna known until about twenty years ago."

CALIFORNIA PEACHES AN IMPORTANT CROP.

California produces almost 100 per cent. of the dried Peaches in the United States, possibly 95 per cent. of the canning Peaches, and also ships several thousand car-loads of fresh fruit to market.

Production of California Peaches was estimated in July at 20,149,000 bushels, or about 4,000,000 more than last season, and 5,000,000 more than the average crop between 1921 and 1925. This State grows approximately one-third of all the Peaches in the United States, although Georgia far exceeds California as a shipper of the fresh fruit.

The 1925 pack of canned Peaches in California was estimated to equal 243,184 tons of fresh fruit. The pack of clingstone Peaches totalled 9,258,587 cases, while freestone Peaches in cans amounted to 1,198,814 cases. In 1924 the pack of these two kinds was 5,366,598 and 963,621 cases, respectively. Production of dried Peaches in 1925 was considerably lighter than for any year in the past decade, it amounted to only 16,000 tons dried, or the equivalent of 38,000 tons of fresh fruit. In 1924 about 24,500 tons of dried fruit were produced. In this connection it is of interest to note the proportion of the total United State Peach crop in 1925 handled in the three different ways. Estimates by State authorities show that of the total 46,565,000 bushels, or 1,117,560 tons, about 778,855 tons were used as fresh fruit, 250,705 tons were canned, and 88,000 were dried.

Large quantities of Peaches are exported annually. Figures for 1925 indicate exports of 57,390,043 pounds of the canned product, 16,172,000 pounds of fresh Peaches, and 4,668,434 pounds of dried Peaches. The exports of the dried product in 1924 totalled almost 13,000,000 pounds, Canada took most of the fresh Peach exports during 1924, while that country, Germany, the Netherlands, and the United Kingdom were the largest users of American dried Peaches. Canned Peaches went chiefly to the United Kingdom, Germany, Cuba, and Canada.

Justifiable Burglary.

Justifiable burglary was the judge's decision in a suit brought against two Los Angeles youths. They stole a saxophone from the room of a fellow boarder who performed nightly when they wanted to sleep. Other boarders joined in a plea for clemency. All in favour say "Aye!"

Tasmania

Apple Marketing : Visit of Dr. Kidd : May Orchard Notes.

(By our Correspondent)

AS THE SEASON continues, it appears doubtful that the estimated total of one million cases of Apples and Pears exported to overseas markets will be reached.

The crops, whilst being generally of good quality, are not "packing" out quite as expected, and a larger percentage of oversized fruit is being found. This, together with the reduction from hail injury and the profitable prices obtained on the mainland markets, is seriously influencing the overseas export trade.

Several vessels have recently sailed with considerably less fruit than their allotments, and the shipping agents have had to take the course of notify-

clerical work, there is a feeling that added protection is provided in the sale of their products. At a meeting of the State Fruit Advisory Board recently held in Hobart, the question of the Board's relations with certain firms who were members of the Associated Selected Agents, and had become "merchants" in order to evade the provisions of the Act, was considered. After a good deal of discussion, it was unanimously agreed that the resignations of these firms be accepted.

An effort is now being made to re-organise the Brisbane and Melbourne Associations on the same lines as the Sydney Committee, in order that they may more fully co-operate with the Board in obtaining improved marketing conditions, and supervising the receiving and discharge of Tasmanian consignments.

Visit of Dr. Kidd.—During the month Dr. Kidd and Mrs. Kidd, together with Dr. Young, of the Melbourne University, arrived in Tasmania, and visited the principal orcharding districts in order to study the conditions of production and export.

Fruitgrowers generally appreciate the good work that has been performed by Dr. Kidd and his associates towards the improvement of fruit transport in cold storage at the Low Temperature Research Station, Cambridge, and were glad of the opportunity of discussing the different phases of this important subject. Arrangements were made for the visitors to be met by the Fruit Expert, Mr. P. H. Thomas, and conducted through the different fruit districts, inspecting cold stores, and generally familiarising themselves with the conditions under which the Apple and Pear industries are operating.

An opportunity was also given for the party to meet the State Fruit Advisory Board and principal fruit exporters, when Dr. Kidd gave an interesting and instructive address on the principal factors governing successful cold storage.

Overseas Fruit Exports.—Now that the Overseas Fruit Marketing Act has passed both Houses of Federal Legislature, preparations are being made for a poll to be taken of those fruitgrowers who come within the provisions of the Act.

The poll will be confined to "exporters," who are defined as fruit-growers who have exported not less

than 100 cases to overseas markets during either of two preceding seasons. The majority of Tasmanian Apple and Pear growers supply at least this quantity of fruit for the overseas trade, and approximately 3,000 valid votes should be represented amongst the producers.

Although the majority of growers welcome the proposals as the first concrete effort that has been designed to improve the conditions of overseas fruit marketing, opinion seems to be pretty well divided as to whether the Control Board will be able to bring about the desired economies and improvements, especially upon the London and provincial markets. A certain amount of exception is also being taken to the wording of the clause, which is incorporated to permit f.o.b. sales—in that the final decision lies with the Minister of Markets as to the granting of an export licence. Fruit-

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

ing growers that they will hold them responsible for "dead freight" incurred in not fulfilling their obligations. The total quantities of fruit (Apples and Pears) shipped out of the State to date are as follows:—

Interstate, 480,000 cases.

Overseas, 675,000 cases.

The overseas markets have opened up with generally profitable prices for all varieties, but these are very little in excess, and often under those which are being obtained on the mainland, the latter, of course, giving much better returns owing to the substantially lower costs of marketing.

Sydney Fruit Markets.—A considerable amount of dissension is in evidence both in Sydney and throughout the Tasmanian fruit districts, owing to the operation of the new Farm Produce Agents' Act. Whilst growers generally concede that certain clauses may necessitate additional

Fruit Shipments
United Kingdom
and the Continent

W. D. PEACOCK
& CO.

24 Southwark St., London Bridge,
LONDON, S.E. 1.
AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

growers are closely following the operations of other Boards, which are already in existence, and the experiences and results of these will, to a large extent, influence opinion when the poll is taken.

Market Sizes of Fruit.—The lot of the fruitgrower is certainly a hard one, and if he endeavoured to follow the advice of all his counsellors, would necessitate powers which are regarded as supernatural.

Last season of bountiful crops, the complaint was in regard to small sized fruit. "We don't want it!—Can't sell it! So don't grow it!"—said the agents on the various markets.

This year only medium crops are being harvested, and most varieties are well up to size. "Here is the class of fruit you require," says the orchardist. "There is a good demand for smaller sizes, but large and over-size lines are hard to quit," says the agent, and thus the game goes on.

Exeter Show.—The annual display of fruit and other primary products, was held at Exeter on April 9, under the auspices of the Tamar Farmers and Fruitgrowers' Association. The collection of Apples was one of the best yet seen in this district.

Mr. P. H. Thomas, the Government Fruit Expert, who judged the exhibits of fruit, was enthusiastic over their quality, and the manner in which they were packed and displayed. Competition was the closest for the past six or seven years, several competitors obtaining almost the possible marks. The highest award was granted to Mr. F. Hodson, who obtained 99 out of the possible 100 points for his exhibit of five cases of Jonathans packed for export. Mr. J. R. Green and Mr. F. Hodson were also commended, as well as Mr. H. C. Wright, who scored 97 points for three cases packed fruit, and Mr. E. O. Hall, who gained champion honors for six plates of export fruit.

ORCHARD OPERATIONS FOR MAY.

(By P. H. Thomas, Fruit Expert.)

Pruning.

DURING THE END of the month a commencement should be made in pruning operations. Stone fruits will require to be treated first, attention being given to thinning and removing weakened or barren laterals, and promoting the growth of new fruiting branches.

Apple and Pear varieties may be treated as soon as the foliage has fallen. In a number of districts very little attention is given to spur pruning, the limbs becoming much too crowded. Such a condition is inimical to regular cropping, the trees exhausting themselves in the effort of flowering and setting of fruit.

Scions of varieties that are required for reworking purposes next season should be carefully chosen from selected bearing trees and "heeled in" until the Spring.

Cultivation and Manuring.

Areas which are not sown down with "green cover" crops or subject to surface wash may receive an autumn ploughing, as long as the soil is in suitable condition. Better results are obtainable by applying at this period the slower acting manures, such as blood and bone, bone dust, etc. These will then be available to the tree when it commences growth, whereas, if applied late and a dry spring follows, owing to slower action, the crop receives little benefit from the application. Experimental work in manurial treatments

shows that if a question of cost, better results are obtained by applying the necessary dressing to a portion of the orchard during successive years, than a light and insufficient application spread over the whole each season. The autumn application may be supplemented with nitrate of potassic manures in the spring if desirable.

Drainage.

The past seasons have proved the necessity for adequate soil drainage in the production of fruit. Areas which are suffering in this respect should receive attention, and the main drains necessary to carry off the surplus water at least be con-

not be run over existing underground drains.

Spraying.

Very little spraying is necessary this month. Apple areas, which are suffering from powdery mildew may receive a strong iron sulphide spray with no danger of injury. The experiences of latter years have shown marked results in plots treated at this period, and followed by another application in the spring.

Apricot and Peach growers are advised to try the effect of an autumn application of Burgundy mixture (bluestone and soda) for the control of "shot-hole fungus" and "Peach curl." Experimental work conducted by mainland orchardists shows a more satisfactory control by an additional spray applied at this period than the single "delayed dormant" treatment.

Small Fruits.

Raspberry and Loganberry plantations will now require their autumn pruning. Cut out and burn all old canes, also the weakly new season's growth. Loganberries should be either stacked or trellised to obtain the best results. Black and Red Currants require little treatment in this respect, except in the thinning of barren or diseased branches. Plantations which are infested with the Curra borer will be better left unpruned until the early spring. If a careful examination of bushes be made at that period, and all infested limbs removed and burnt, a much better control will be exercised over the borer.

Strawberries may be planted during the month if beds are made ready and manured for their reception. Selections should be limited to only strong runners from known productive beds. The most profitable commercial varieties at present extensively grown are Abundance, Melba, Royal Sovereign, and Ettersburg. In regard to the latter it should be mentioned that several species of the so-called Tree Strawberry class are upon the market. The most satisfactory kind is known as Ettersburg 89, which is superior in quality and of much better cropping habit.

Bankers:
COMMERCIAL BANK OF AUSTRALIA,
Collins Street, Melbourne.
Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL

Consign your Fruit to
FRUITGROWERS DEPOT
(Licensed and Registered by the Government of Victoria).
Managing Director—M. J. FOY.

Wholesale Fruit and
Produce Commission Agents
Importers and Exporters of Interstate Fruit
471 Flinders Lane, Melbourne
TELEPHONE F 1392.
Telegrams: FRUITGROWERS.
471 Flinders Lane, Melbourne.

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

structed. These can be added to as the occasion arises and gradually a complete system be installed. A chart should be kept of the position of all drains in the orchard. This is easily plotted out, and is invaluable in future operations. Stone or tile drains are to be preferred to those constructed of timber. The latter are only a temporary measure, and when constructed of green saplings are likely to become a host for the Armillaria fungus, which may subsequently attack the roots of the trees. Surface furrows will assist in carrying off a great deal of water, but must





Fundamental Principles of Citrus Growing.

(By Redvers J. Blatt, Ph.D., of South Africa and California.)

(Continued from Last Issue.)

(2) Bud Selection.

CITRUS GROWERS have not come to realise the value of bud selection, and even many nurserymen do not fully appreciate the significance of the term. As has been the case with most of the investigations in citriculture, California has been the pioneer in this field. Thanks to A. D. Shamel, of the United States Department of Agriculture, with headquarters at Riverside, California, much is known to-day about bud selection. It is no exaggeration to say that he has saved the industry hundreds of thousands of pounds through his valuable work. Bud selection has proven so successful with citrus trees, that Mr. Shamel is now devoting a great deal of attention to the improvement of sugar cane and Pineapples in the Hawaiian Islands, and deciduous fruits in California.

Shamel was the first to notice the great deal of variation in the citrus trees, particularly the Washington Navel, and while making a study of this variation in Southern California, he found many different kinds of fruit on the same tree, e.g., round, flat, elongated and deformed fruit. At times a peculiar ribbed type of Orange, different from all the other Oranges on the tree, was found, and buds from branches bearing this type of Orange reproduced the type. In fact, all these types were reproduced later by taking buds from the particular branches; thus trees were produced bearing only flat, or round, or elongated fruit.

These sports or mutations are perpetuated, often resulting in new varieties. It was also noticed that in most groves at that time there was a great difference in the bearing qualities of the trees. Some trees were

always prolific bearers, while others never produced much of a crop even when properly cared for. Such trees had the inherent characteristics of bearing either good or bad crops every year.

The most important fact was that buds taken from good trees usually produced good trees, while buds from poor trees usually produced poor-bearing trees, notwithstanding good treatment and the fact that the trees looked perfectly healthy. In other words, what is in the bud will come out in the tree.

Heredity will always tell.

This work was started in 1909, and has been carried on for a number of years, records of a number of groves being carefully kept. Buds were taken from the best producing trees in the country, and new groves established, and the yields recorded annually. The best producing trees in these new and old groves that have been under observation are the pedigreed trees that most of the buds are taken from for practically all propagation work in California. Mr. Shamel is still carrying on bud selection investigation work, but he has handed over the work of supplying buds to the nurserymen to the "bud selection department" of the California Fruit-growers' Exchange. These buds, from performance-record trees, are sold at a cheap rate to nurserymen or growers. California nurserymen are very particular about the source of their budwood, and while this method, together with the rigid culling practised in the seed beds and afterwards, means that a higher price is charged, the grower is quite agreeable to pay the price, because he is assured of good trees with very little variation in the bearing qualities of the trees.

In California, 8/- to 10/- is charged per tree, but then there is a guarantee with it, that the tree will bear normal crops of good quality.

Stocks.

Bud-selection, therefore, means the careful selection of buds for propagation purposes. Selection, however, should include the selection of stocks in the seed bed and nursery row. All second and third class trees should be destroyed. Plant only first-class trees, which may be defined as follows:—Trees that are from buds from performance record trees, with a good root system. No bench roots, straight stems about $\frac{1}{2}$ to $\frac{3}{4}$ inch in diameter at the bud union, with a bud union about 8 inches from the ground, and a head about 24 inches from the ground. Such trees have given the best results in the past. Once a runt, always a runt, so don't plant poor trees.

(To be continued.)

Long Hanging Orange.

What is locally regarded as something in the nature of a curiosity in the citrus world is growing at Dutton, about ten miles from Sale (Vic.), says the "Citrus News." It is a thornless Orange tree that is reported to hold its fruit from season to season without loss of color or deterioration of quality.

The tree was grown from a Jaffa seed planted about 25 years ago by the wife of Mr. T. A. Robinson. The latter states that the fruit continues to grow after it has colored up, and that it is sweet and eatable at any subsequent stage. Rich in color, it contains a fair proportion of juice, considering the southerly location, and is "riey" in texture, but with an entire absence of rag. The hanging qualities of the fruit, Mr. Robinson states, were found out by accident. For years the fruit was picked as it

colored, but one year several Oranges were overlooked. These remained on the tree until the next season, when they were found to be quite equal in every way to the new season's crop.

The tree bears an average of five bushel cases. Mr. Robinson has a small nursery budded from the tree, and he intends in due course to plant the young trees out. He hopes that the fruit will catch the market about February and March or early April, before the Queensland Oranges come on the Melbourne market.

TRESCO.

CROP PROSPECTS OF CITRUS in Tresco will be slightly less than last year on present appearances; the crop is estimated at about 18,000 cases of Oranges, and 1,000 cases of Lemons. Probably the latter will be much lighter than last year. Last year's figures were 17,800 cases Oranges, 3,000 cases Lemons.

Mr. F. R. Read, B.A.Sc., is continuing his research work on Mr. A. Sloane's block on behalf of Department of Agriculture. No report has yet been published of result of this work.

Fumigation has been carried on on several citrus blocks here by Mr. D. D. Brown, Orchard Supervisor, and results, as far as can be seen up to the present, have been very satisfactory.

Negotiations are at present being carried out by the Tresco Fruitgrowers' Co-op. Association in connection with the disposal of present crop of Doradillos, the estimate of which is 1,800 tons, last year's crop being 1,800 tons. The last irrigation for season is at present being carried out, growers generally watering lightly, in anticipation of winter rains. Green manure crops of Peas and Beans are now generally down.—J. P. Greenwood, Tresco.

U.S. CITRUS EXPORTS.

The United States exported in the calendar year of 1926, 2,692,489 boxes of Oranges, as compared with slightly under 2,000,000 boxes the previous year, and an average of slightly over 2,000,000 boxes for the five-year period from 1921 to 1925. Canada is our principal market for Orange exports and took in 1926, 2,273,290 boxes. Our Oranges from the United States are reported as gaining an increasing foothold in the English market, despite the fact that they do not sell as cheaply as the Spanish Oranges.—"California Cultivator."

N.S.W. CITRUS CROPS.

1. The crop of Citrus fruit is distinctly on the light side, particularly in most of the coastal areas. The Valencias are less than last year, Mandarins, medium crop; Navels, light on the coast and medium on the irrigation areas.

2. There are no figures available as to the probable number of bushels, but it is unlikely that the crop will exceed 1½ millions taken on the same basis as the statistics prepared by our Department of Agriculture for previous years.—Central Citrus Association (N.S.W.) Co-op. Ltd.

H. G. SUCH, Manager.

MARGETSON & CO. LTD.

Fruit Importers &
Salesmen

30 James St. and James
St. Warehouses,

11 Neal St.,

COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,

9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

PERSONAL.

Mr. Dundas Simpson, of Ardmona, is one of our pioneer fruitgrowers. He started in 1899 with 40 acres, which he subsequently increased to 60. In those days fruitgrowing was a profitable occupation, and he was enabled to live in moderate comfort, and give his children a college education.

However, the heavy plantings under the closer settlement scheme of

the Victorian Government commenced to tell against the efforts of the pioneer growers. The heavy plantings under the Commonwealth Repatriation scheme seriously overbalanced the production, and the pioneer growers, together with the newer settlers, have had difficult times. Mr. Simpson has now over 500 acres under fruit.

Mr. A. S. Krcrouse, who was for many years an orchardist in the Tyabb (Vic.) district, and was proprietor of the fruit selling business of the International Fruit Co., Brisbane, up to 1923, visited Victoria, Tasmania, and South Australia recently. Mr. Krcrouse, who has been in the fruit business in Sydney for the past four years, is returning to Brisbane to manage the old-established business of Comino Bros. Ltd.

Following the retirement of Mr. A. H. Benson, Mr. George Williams, Experimentalist and Instructor in Fruit Culture, Queensland, has been appointed Acting Director of Fruit Culture as from April 1.

THE COST OF INSECT PLAGUES.

The past season in Victoria has been disastrous from the point of view of ravages by insect pests, particularly thrips and Rutherglen bug. Authoritative figures give the loss of Apples at 250,000 bushels.

Taking the value of 5/- per case, this means a loss to the growers of £62,500. The same authority places the loss of Peaches at 4,000 tons, the market value of which is at least £12 per ton, equalling £48,000. This £110,500 is the direct loss to the orchardists. When the loss in freights and wages is added the smashing effects of the ravages of thrips and Rutherglen bug can be recognised.

Arrangements have been made for growers who suffered loss to receive assistance from the State, and it is estimated that the sum advanced to Apple, Pear, and Peach growers will total at least £75,000.

The Horticultural Division of the Department of Agriculture has sought every means to combat the pests, but has been handicapped by lack of support. A new research laboratory is now being erected in connection with the Burnley School of Horticulture, at a cost of £3,000; and it is to be hoped that the Officers of the Horticultural Division will be given every assistance, both officially and otherwise, to investigate the life history and methods of control of these and other troublesome insect pests.

Western Australia

Seasonal Work in the Orchard : Citrus Crops : Bridgetown Notes.

SEASONAL WORK FOR MAY.

PRUNING will now claim the attention of growers of stone fruits, particularly in the early districts near Perth, where most varieties of Apricots, Plums and Peaches will have shed their foliage. Where varieties of Peaches liable to shed their buds (Briggs, Hales, Downing, Alexander, etc.) are grown, it is advisable to delay pruning until the buds have burst in early spring.

Spray deciduous orchards for the control of San Jose as soon as the leaves have fallen, using commercial lime sulphur at a strength of one gallon in seven gallons of water, or a reliable brand of spraying oil may be substituted for lime sulphur, using one gallon of oil in 19 gallons of water. To keep San Jose Scale in check it is necessary to spray twice while the trees are dormant; the first to be applied as early as possible after the leaves have fallen, and the second towards the end of the winter in late August. As August is often a very wet month, care should be exercised in making the May spraying a very thorough one.

Where Orange and Lemon trees were not treated for Brown Rot last month, they should be sprayed during the early part of this month, using Bordeaux at a strength of 4 lbs. bluestone, 4 lbs. freshly burned lime to 50 gallons of water, or Burgundy at a strength of 4 lbs. bluestone, 6 lbs. washing soda, 50 gallons of water. The trees should not be sprayed all over, or the beneficial fungi which attack lecanium scales will be destroyed, and these pests will increase with great rapidity. In

tests made both by this Department and by individual growers it has been shown that one spraying in April or early May is sometimes sufficient to control the disease for the remainder of the season, but should the season prove favorable for the fungus, the trees should receive a further spraying when signs of infection appear. Later sprayings have the effect of spotting the fruit, but it is better to remove spray spots from sound fruits at time of picking than to have the crop destroyed by disease.

In recommending spraying, I am not overlooking the fact that there are some districts where the disease has not appeared, or at any rate, has not been noticeable, and in such places I would not suggest spraying merely as a preventive measure, but should it make its appearance spraying should be resorted to at once.

With the advent of wet weather, baiting operations for fruit fly are largely ineffective, but trapping in Orange and Lemon groves should be continued throughout the winter months.—G. W. Wickens, Supt. of Horticulture, in the "Journal of Agriculture."

SPLENDID SEASON AT BRIDGETOWN.

We are just coming to the end of the most prosperous season on record. In and around Bridgetown there will be nearly 200,000 cases of first-class fruit harvested. These are practically all Apples, the varieties being Jonathans, Cleos., Dunn's, Romes, Statesman, Nickajack, Rokewood, Yates, G. Smith, Dougherty, etc.

On our 40 acre Apple orchard we broke the previous record of 8,000 by 3,000 cases, which brings the total to 11,000. It would be difficult to find one orchard around Bridgetown which has not a record crop.

We have been looking forward to shipping fruit to the Eastern States, but so far have had no tempting offers from buyers on your side. The majority of people here sold their fruit f.o.r. Bridgetown station. The prices realised were:—Jons., 7/-; Cleos., 7/- to 8/-; Dunn's, 8/3; Romes, 8/-; Nicks, 9/6; G. Smith, 10/6; Rokes, 8/6; Statesmen, 8/-; Dougherty, 8/-. We still wait for buyers on your side to take away some of the Yates and Rokewood.—G. and G. Hester, "Lilydale," Bridgetown, W.A.

WESTERN AUSTRALIAN CITRUS CROPS.

Mr. Geo. W. Wickens, Superintendent of Horticulture, reports that the Orange crop in Western Australia this season is medium. "The average annual production of Oranges and Mandarins amounts to 220,000 bushels: our biggest crop in any one year occurred in 1923-24 season, with a production of 282,255 bushels. This year I anticipate the crop will be between 180,000 and 200,000 bushels, but nearer the lower than the higher figure, and about 20 per cent. under last year."

PACKING AND GRADING EXPORT FRUIT.

Writing in the "Fruit, Flower and Vegetable Trades' Journal" recently, Messrs. Knowles and Sons, Dublin, mention points which should prove of interest to Australian Apple exporters. In the course of a letter they say:—

There is much room for improvement in the grading and packing of Tasmanian and Australian Apples, and the growers have an excellent model to follow. All they have to do is to copy the Oregon methods. If the Australian growers could only see their fruit as it arrives here as compared with that from the Oregon area, they would realise at once the need for reform. Let them get their boxes made the same shape as those from the Oregon district, and let the fruit be graded the same—in counts instead of so-called sizes—and packed on the Oregon model. Let woodwool or corrugated cardboard be used on each of the four sides, and in sufficient quantity to ensure real protection.

If these things were done they would bring an enormous benefit to all concerned in the handling of Australian fruit.

**Brand Your
Fruit Cases and Bags**

with

**CALDWELL'S
STENCILLING
INKS**

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

HAMBURG

(GERMANY).

**Ph. Astheimer
And Sohn,**

**Fruit Brokers . .
and Auctioneers**

(GERMANY)

Established 1863.

**Largest receivers of Australian,
Tasmanian, and American
APPLES.**

Foreign Apples a Speciality.

FIGHTING INSECT PESTS.**Codlin Moth.****Dusting.**

Dusting of Apples has not compared favourably with spraying in New Jersey, U.S. America. It seems useful as an adjunct to spraying when liquid treatments cannot be applied at the proper time. The chief weakness of the dust mixtures now available is their failure to stick to the smooth fruit and foliage for more than a very limited time.

Spraying.

The caterpillars of this moth will be pupating in the crevices of Apple, Pear and other fruit trees. It is advisable to remove all loose bark so as to destroy the insects. Remove and burn all bandages, as these will contain many caterpillars, either pupating or hibernating through the winter. Burn all bark removed from trees. Spray packing sheds, especially near benches, with Lotol. Boiling water poured about crevices in sheds will also destroy caterpillars.

Woolly Aphids.

After the trees are pruned thoroughly, spray with nicotine sulphate and red oil. This is prepared as follows:—

Nicotine Sulphate, 1 pint.
Red Oil, 1 gallon.

To prepare sufficient mixture to treat 100 trees, 1 lb. soap should be boiled in a gallon of water till dissolved; add 1 gallon red oil and mix thoroughly; then add 1 pint nicotine sulphate, and after mixing the whole for a few minutes, add 80 gallons of water. If the water is hard, a small piece of washing soda should be added.

In the summer the Woolly Aphid parasite (*aphelinus mali*) should be distributed in the affected orchards.

Pear-leaf Blister Mite (Phytoptus).

These Mites produce reddish or dark brown spots on the leaves, the spots become darker with age, and may spread so as to entirely cover and destroy the foliage. The Mites pass the winter on the trees under the bud scales, and begin to work upon the leaves as soon as they appear in the spring. The eggs are deposited in holes bored into the undersides of the leaves. The young Mites cause galls or swellings.

Spray in winter with lime-sulphur or red oil.

Bryobia Mite.

This Mite attacks many kinds of fruit trees, and is sometimes very destructive, especially in spells of dry weather, when it can breed without interruption. It is particularly destructive to the foliage of Apple trees. On the approach of winter they lay

their eggs in the forks and crevices of the trees.

Spray in winter with red oil or lime-sulphur to destroy eggs.

In summer spray with tobacco water.

Spray underside of leaves. Use misty spray.

SHIP YOUR FRUIT TO GERALD Da COSTA



Head Offices—
**Floral Hall, Covent Garden,
LONDON, W.C.2**

*Importers and Distributors of
all kinds of English, Colonial
and Foreign Market Produce*

BRANCHES:

COVENT GARDEN, W.C.2.
8, Russell Street.
524, Central Avenue.
Stand, 151, English Flower Market.
Stands, 31, 32, Foreign Flower Market.
Apple Warehouses, Jubilee Market.
Tel.: Gerrard, 868 and 5786.
Telegrams: "Geracost, London."
Stands, Nos. 151, 152 and 153.
Spitalfields Market, E.1. and 54 Brushfield Street, E.1.
Telephone: Avenue 8804.
Telegrams: "Spitacost, London."
Apple Warehouses:
Church Passage, Spital Square, London, E.1.
3, 4 and 5, The Arcade, Borough Market, London, S.E.1.
Telephone: Hop, 3373.
Telegrams: "Borocost, London."
G.N.R. Potato Market, King's Cross, N.1.
Telephone: North 1482.
Telegrams: "Kincrocost, London."
13 & 17 Victoria Street, Liverpool.
Telephone: Central 888.
Telegrams: "Geracost, Liverpool," (Facing Commercial Sale Rooms.)
Deansgate, Manchester.
Telephone: Central 7156.
Telegrams: "Geracost, Manchester."
17, Humber Street, Hull.
Telephone: Central 4041 Y.
Telegrams: "Geracost, Hull."
Southampton Docks, (Facing No. 45 Shed.)
Telephone: Southampton 2610.
Telegrams: "Geracost," Southampton.
Eclipse Yard, Westgate, Mansfield.
Telephone: Mansfield 440.
Telegrams: "Geracost, Mansfield."

Black Cherry Aphids.

These are very destructive to the young leaves of Cherry trees. They swarm underneath the leaves in hundreds, suck out the sap, which causes the leaves to curl and to turn yellow. Trees that have been badly affected occasionally die out.

They should be thoroughly sprayed, as soon as the leaves are off, with red oil or lime-sulphur to destroy the

eggs. When insects are on leaves, spray with nicotine sulphate.

Bag Moths.

The caterpillars of Bag Moths are very destructive to Quince, Plums, Apple and other trees. Sometimes they destroy the fruit spurs of fruit trees. Spray with arsenate of lead, 1 in 25.

Painted Apple Moth.

The woolly caterpillars of this very destructive moth are still to be found in orchards, but when the cold weather sets in they will disappear. If noticed, it is advisable to spray with arsenate of lead.

FRUIT PRODUCTION PER TREE.**Has the Average Declined?**

Fruitgrowing has become one of the important primary industries of Australia. The total production last year was valued at nearly £18,000,000. Yet those engaged in the industry do not find it the profitable business it should be.

It seems to be the general opinion that the production per tree has seriously declined. In a recent letter, Mr. T. H. Grant, of Beaconsfield, Victoria, wrote:—"Twenty years ago we used to produce up to 15 and 16 cases per tree, and average 8 cases over several acres, with a general average of over four cases. . . Now the average output is less than one case per tree. With a one-case crop the fruit costs 7/4 per case to produce on the tree, and 2/- per case to put it on the railway. The average price received would be about 6/6. A two-case crop would just about pay expenses."

Mr. Grant has had a lifetime's experience of fruitgrowing, and he attributes the decline in production to wrong methods of pruning, spraying, and manuring. It would be interesting to have the opinions of other growers in this connection.

Mr. Grant regards the grading regulations for overseas shipment as "a deplorable muddle."

EXPORT OF APPLES FROM CANADA.

It is estimated that exports of Apples from Canada last year exceeded by 50 per cent. those of 1925. The export of Apples from Canada in the fiscal year ended March 31, 1926, amounted to 1,388,493 barrels, worth \$6,250,186. The bulk of the exports went to the British Isles, which took 1,290,050 barrels, worth \$5,743,009. Other heavy purchasers were the United States, New Zealand, Sweden, Newfoundland, China, Hong Kong, and Denmark.

SIX IMPLEMENTS IN ONE

Reversible to throw to or from the trees

ONE WAY DISC : SPRING TYNE CULTIVATOR
TWO WAY DISC : LIGHT 3 FURROW PLOUGH
CUTTING RAKE : IRRIGATION FURROWER

Made in various sizes



Harvey Methods of Orchard Cultivation.

LEAVES THE LAND PERFECTLY LEVEL

S I M P L E T O O P E R A T E

We Manufacture a full range of Special Tractor Orchard Implements
Watch for advertisement next month's "Fruit World"

D. HARVEY, ORCHARD IMPLEMENT MAKER
BOX HILL, MELBOURNE, AUST.

AGENTS ALL STATES. (See page 211)



Double the Eggs for a Half-penny a Day

Through feeding with Karswood

AT this time of the year when egg-production is as fickle as the weather, and prices are soaring, the doubling of the egg supply means a whole lot to both "backyarders" and Poultry farmers.

For the former, it means "home-grown" fresh eggs and a saving on the Grocer's bill, for the latter it means more profit. Why not reap this extra and worth-while benefit from your fowls. This doubling of egg-production *can* be accomplished. All that is necessary is to feed with Karswood Poultry Spice (which contains dried and ground insects). By doing this, not only will a meagre egg supply be doubled, but

where no eggs at all are being laid, regular laying will result.

Many poultry owners, frankly sceptical at first, now have no worries regarding Winter eggs. Their fowls perform their daily duty just as regularly as in the spring and summer, and beyond the shadow of a doubt credit belongs to "Karswood." We quote below a testimonial from a user of Karswood whose gratifying results impelled her to write and tell us about it. But apart from this firsthand evidence, put our claims to the test yourself. The cost of a trial on 20 birds for 16 days is but 1/-, or a halfpenny a day for 12 birds. Not much is it?

Wonderful results from "Karswood"

9 Dalhousie Street,
Haberfield.

Dear Sirs,—

I have had such wonderful results from using Karswood Poultry Spice, I think it only fair to add my praise in common with other users. I have only eight laying hens, one or two real old, and the result in laying has been marvellous since I commenced using Karswood. They look so well also. I would not be without it, and intend to rear more in future.

(Sgd.) M. ASKEY.

Note the Economy

1/- packet supplies 20 hens for 16 days.
2/- packet supplies 20 hens for 32 days.
13/- (7 lb. tin) supplies 140 hens for 32 days.

Supplies

"Karswood" Poultry Spice is obtainable at all wholesalers and stores at the following standard retail prices:—

3½lb. packet	Price, 1/-
1lb. packet	" 2/-
7lb. tin	" 13/-
14lb. tin	" 25/-
28lb. tin	" 48/-



RED MITE IN POULTRY.

Measures for its Control.

A sharp lookout should be kept for the appearance of red mite in poultry houses and prompt measures should be taken for its control as soon as the mite is recognised.

When birds are seen to look anaemic or their combs turn dark, or when, perhaps, there is a general run-down appearance of the whole flock, with a falling off in egg production, red mite may be suspected. The perches should be examined—particularly underneath and under the ends that rest upon cleats—when small red insects will often be found in such numbers as to give them the appearance of a semi-liquid substance falling to the floor. These are the suckers, full of the blood that they have extracted from the hens during the previous night. In addition to these visible signs of blood-suckers there may be swarms of small grey insects. These are the same parasites, but in a different stage. In this stage they will be found in almost any part of the poultry house, nests, and, in bad infestations, even up in the rafters of the building. The cast skins and excreta will be present in the form of white masses at the entrance, or about cracks and crevices of the wood-work.

The red mite in the blood-sucking stage can very easily be controlled by painting the perches all round with crude kerosene, known also as kerosene tar and as wood preserving oil. It is, however, important that proprietary brands of wood preserving oil containing arsenic or other poisons should not be used, as the poison may be absorbed by the feet of the birds and trouble will follow. The crude oil, as supplied by the oil companies is what is required.

Painting the perches is, however, of little use in combating the grey insects once they are scattered about the poultry house (writes the Poultry Expert of the N.S.W. Department of Agriculture). Only persistent spraying with kerosene emulsion is of any use in combating these.

To make kerosene emulsion, bring to boiling point one gallon of soft water and dissolve in it eight ounces of soft soap; remove from the fire and add slowly one gallon of kerosene; stir briskly for ten minutes or more until the oil is thoroughly incorporated with the soap water, and appears like thick cream; then add this mixture slowly to ten gallons of soft water, stirring all the time. Smaller quantities can, of course, be made in the same way.

A good force pump with six feet or more of hose and a nozzle, such as is used for spraying fruit trees, is the

no use expecting hens that have not finished their moult by the end of May to be much use as breeders before August, and even then such hens are scarcely the class of stock to produce strong chickens.

The Egg as a Guide.

A good criterion, however, is the class of egg being laid; one should observe the strength of shell and quality of the contents of the eggs. If, for instance, the shells are poor, the albumen lacks density, and the yolks are poor and spotted, it can be taken as a sign of exhaustion, brought about most likely by the laying of an abnormal number of eggs, or ill-health from some other cause. Such eggs are not fit for setting, and they can only lead to degeneracy in the chickens hatched. Moreover, the hens laying such eggs are not fit stock to breed from.

Breeding from Pullets.

With regard to breeding from pullets, i.e., females under 12 months old, if these are well developed and 10 months old, there is no reason why they should not be bred from, and there is this great advantage, that they will usually be in full lay a month or six weeks before hens which are in their second year. Therefore, it is to such pullets that the farmer must look to produce early chicks, i.e., it is the early-hatched pullets of each season that produce early stock the following year.

But these pullets, particularly in the light breeds such as Leghorns, come on to lay usually about December, lay for two or three months, and then go into a partial moult which usually takes about three weeks to get through. There is often some prejudice against pullets on this account, but it should be remembered that the effect of this partial moult is to constitute them more mature and better fitted for the breeding-pen. Usually these pullets lay eggs of full size and of good quality—just what are needed for incubation.

Pen the Breeding Hens Now.

Whatever the mating, it is not too early now to get the hens and pullets into the breeding-pens, having in mind that the breeding-pens should be made up by May 1. It is, of course, not necessary to put the male birds in until about two weeks before eggs are required to be saved for hatching, and as far as flock matings are concerned, it is scarcely advisable to put the male birds in earlier, because there is almost sure to be quarrelling among them, and the earlier they are penned the more losses are likely.

Orchardists!

Hardwood Dump Fruit Case Shooks

6d. each in truck loads

F.O.R. Bairnsdale

A. Palmer & Co.

Bairnsdale Sawmills
and Produce Stores

Bairnsdale, Victoria

best for this work. Two, three, or even more sprayings may be necessary to properly clean the houses.

THE BREEDING SEASON.

What Stock to Use as Breeders.

As far as the age of the breeding stock is concerned, it is sound practice to use a good proportion (about half) mature hens, the same proportion of well-grown and fairly well matured pullets, and such late moulting hens as are not too late in moulting. With regard to moulters, it is



The "Eclair" Spraying Fruit Trees.

FOR

SPRAYING, LIMEWASHING AND DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL

Before Placing Your Order ASK A FRIEND
WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

— TO TELL YOU HIS OPINION OF IT — ACTUAL USE IS THE BEST TEST —

The types made include the following:—
HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS

BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED HAND POWER SPRAYER.
high pressure model (220 lbs. per square inch)
CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS

POWDER BELLOWS
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS
3 H.P. MOTOR SPRAY OUTFITS

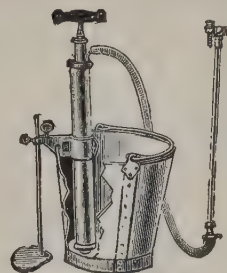
LIQUID CAPACITIES 1½ pints to 88 gallons.

PRICES FROM 4/- each.

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON E.C.2



SURPLUS HONEY PRODUCTION.

Lessons to be Learned from New Zealand.

For several years past the quantity of honey produced in many States has been greatly in excess of the amount required for home consumption, and it has been deemed advisable, if possible, to open up an export trade in order that the surplus may be disposed of to advantage. The Hon. W. F. Dunn, Minister for Agriculture, during his recent tour through Great Britain, Canada, and the United States, made inquiries in the United Kingdom as to whether such a market could be found for the honey produced in excess of our local requirements. In this connection, the good work done by the New Zealand Honey Control Board was brought under the Minister's notice.

New Zealand Honey Control Board.

This organisation had succeeded in standardising New Zealand honey, before shipping, to a quality or qualities which were suitable for the English market, and had made such arrangements that a continuity of supply could be assured. This honey, which is light in color, and of excellent quality, is brought over in bulk, is bottled in London, and distributed by a wholesale firm to retailers.

New Zealand honey is only sent on to the London market in a set condition, whereas Australian honey is frequently in liquid form, and the tins on landing are frequently leaking. The most popular varieties of honey are pale to white in color, though in some quarters (opinions

among merchants still vary) the amber-colored product is now preferred. Indeed, one firm which, some few years ago, asked for New Zealand honey to be as white as possible, have now made requests for the amber color.

New Zealand honey is only distributed through one house, and as far as possible the price is fixed, the goodwill attaching to it in consequence of care in preparing, advertising, etc. It has a ready sale, and is now recognised as being one of the best honeys, if not the best, imported. It does not seem probable that Australian honey will, within a reasonable time at any rate, be exported under control as is New Zealand; consequently, while it is making itself known on the home market, it cannot expect to realise more than the current market prices.

A Suggestion.

A proposal was made some time ago that New South Wales bee-keepers should establish a depot in Sydney to which they could forward consignments of honey, and where it would be blended to produce the required standards of color and flavor; this undoubtedly would be a step in the right direction and would do much to put the marketing of our honey on a proper basis. From what is known of our honey, it is felt certain that we can supply a quality that would sell well on the home market, but to bring high prices, as stated, it would have to be standardised, and a regular supply maintained.

The honey should be handled in the same way as the New Zealand product, that is, it should be sent over in bulk and be bottled in London for

distribution. This presents no difficulty, and the added expense would be more than compensated for by the higher price obtained and the fact that we are establishing a goodwill.

The firm which handles the New Zealand honey would undertake the distribution of the New South Wales product, charging 5 per cent. on the sales affected. Being a merchant firm, they are as close to the retail trade as it is practicable for an importer to get. Other merchant firms would very likely undertake the business on similar terms, or brokers may be engaged at a commission of 2½ per cent. The honey is usually sent over in 60 lb. tins. These should be strong enough to ensure opening up in good condition.

The market prices for honey, London, July 1, 1926, were as follows:—
New Zealand, 55/- to 87/6 per cwt.
Californian "Clover," 50/- per cwt. landed; 48/- per cwt. c.i.f.

Mexican Light Amber, 40/- per cwt.
Australian Light Amber, 45/- to 50/- per cwt.; 42/6 per cwt. (Mincing-lane).

Taking these rates as a fair example of the relative values of these honeys on the London market, it is found that if we allow, say, 6/- per cwt. for freight, insurance and landing charges, the price, f.o.b. Sydney, for Australian honey would be about 4d. per lb., and for New Zealand honey from 5d. to 9d. per lb., New Zealand ports.

This difference in value is not warranted, and as already stated, by standardisation and arranging for regular supplies, the margin can be greatly reduced, if not entirely eliminated.

PRUNING FRUIT TREES.

PREPARATIONS are now being made for the winter pruning, particularly in regard to Plums and other stone fruits. The chief points to be observed in pruning may be quoted from the catalogue issued by C. J. Goodman, Picnic Point Nurseries, Bairnsdale, as follows:—

Winter pruning promotes wood growth, whilst summer pruning makes strong limbs branch into good shape and also helps to form good fruit buds for the season following.

The first year's pruning of trees just received from the nursery should also aim at securing a good shape as a foundation on which to build the tree. Remove all but three or four of the best situated branches and then cut them back to three or four buds on each branch, cutting close above an outside bud. Always keep the centre of the tree free from growth. Plant your tree unpruned and then take off the necessary wood.

The second and third year's pruning also help to make the foundation of the tree by forming up the permanent main branches on which to carry the laterals and fruit spurs. All main branches should be kept well spaced so as to give a good, open vase-shaped centre to the tree.

From nine to 12 main branches are sufficient, and after these are secured, the pruning chiefly consists in cutting back and thinning out useless growth. Certain kinds of trees require special pruning, but it is always advisable to prevent trees fruiting too soon, as early bearing helps to weaken the tree, check the growth, and render it more liable to disease.

Citrus trees may be pruned at any time of the year. Always keep the centres clean and open, and any dead, sickly wood quickly cut off. Those long, hanging branches that sometimes grow at the end of summer must be cut back to make them rigid and growing upward. Lisbon Lemon has a great tendency to do this, and then, when rocked by the wind, the bark rots at the ground surface. Keep the tree down with branchy limbs.

ARSENIC ON APPLES.

Victorian Health Department Moving.

A letter was recently received by the Manager of the Quantong Fruit-growers (Mr. C. H. Jost) from the State Public Health Department, Melbourne, stating that Apples which had been purchased from the organisation

had been found to contain arsenic of lead, and asking for an explanation why prosecution should not be instituted "for selling for human consumption food deleterious to health."

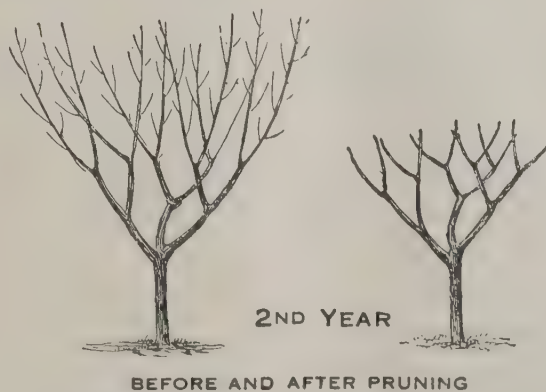
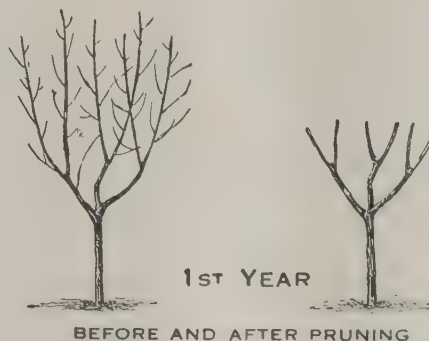
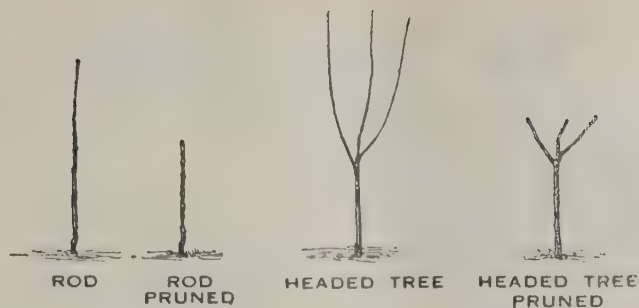
In his reply, Mr. Jost pointed out that growers are compelled by law, enforced by officers of the Department of Agriculture, to spray fruit trees with arsenate of lead to combat codlin moth. If another Department is to prosecute growers for thus obey-

ing the law, what will be the result?

It is not stated what quantity of arsenic was found on the Apples. The quantity allowed as harmless by the British Health Authorities is 1-100th part of a grain of arsenic per pound of Apples.

Bob: "Did you ever have an appointment with a dentist?"

Bobbie: "No; but I have had some wonderful disappointments, though!"



Pruning one and two-year old trees.

Illustration by courtesy C. J. Goodman, Bairnsdale.

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS.

Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.

VICTORIA.

Melbourne.

Clifford Barnsbee, 323 Bourke St., Melbourne.
Producers' Dist. Society, Western Market.
Cave F., & Co., Melbourne.
Davis, J., Western Market.
Fruitgrowers' Depot, 471 Flinders Lane, Melbourne.
Lister, G., Western Market.
Mills, A., & Sons, Western Markets.
Mills, J. B., & Co., Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L. Little Bourke Street.
Ross, J. W., Western Market.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T. Western Markets.
Tin Young & Co., Western Market.
Vear, F. W., 49 William Street.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.
J. Younger, Melbourne.

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Cooksey & Co., Fruit Exchange.
Finlayson & Son, Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H. Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters, and at London.

Lanncaston.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.

GREAT BRITAIN.

London.

Da Costa, Gerald, Covent Garden.
M. Isaacs & Sons Ltd.
Margeson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Ridley, Houlding & Co., Covent Garden.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Exchange.

Enn.

White & Son Ltd.

Covevtry.

Roswell Bros. & Davis.

Manchester.

Manchester Ship Canal: Australasian Representative, Capt. W. J. Wade, 8 Bridge St., Sydney, N.S.W.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hambur.

Astheimer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hanburg.
Fruchthandel Gesellschaft, Fruchthof.
Stier, Aug., Fruchthof. Reus, J. R. Müls & Co., Bank House, Melbourne.
Timm & Gerstenkorn.

BRITISH MARKETS.

Australian Fruit Sales.

London (11/4/27).

The first sales of Australian Apples in London have been very satisfactory. The Ferndale's West Australian fruit met with a strong demand, both at Covent Garden and the city markets, and realised excellent prices. A few Jonathans brought 10/- a case, others 14/6 to 18/-; Cox's Orange Pippins, 23/- to 30/-; Dunn's Seedling, 17/- to 18/-; Cleopatras, 14/6 to 29/-, mostly 17/- to 17/6; Delicious, 13/6; Adam's Pearmain, 13/6 to 14/-. For Pears phenomenal prices were realised, as there was a shortage of South African supplies, which left the market practically bare. Trays of Doyenne du Comice realised 14/6 to 24/-; Winter Nelis, 8/6 to 12/-; Winter Bartlett, 30/- a case; Keiffer's Hybrid, 16/- to 24/-; Grapes, three-quarter cases of Black Malaga, sold at 11/- to 15/-; Gros Colmar, 14/6, and half cases at 8/-.
London (20/4/27).

Prices for Apples sold in London are rather lower, owing to larger supplies becoming available. The balance of shipments by the steamers "Mahana" and "Cambridge," of Apples from New Zealand, sold as follows:—Cox's, 18/- to 30/- a case; Jonathans, 15/- to 17/-; Dunn's, 13/- to 16/-; King David's, 14/- to 16/-; Delicious, 15/- to 18/-. Pears, Clairgeau, in trays, 4/- to 6/- a tray.

West Australian Apples shipped by the steamer "Otranto" were generally of good quality and condition. Jonathans realised 14/- to 17/- a case; Cleopatras, 16/- to 18/6; Dunns, 15/- to 17/-; and Cox's, 15/- to 22/6. Pears; Josephines, 9/- to 10/- a tray. Grapes, Flame Tokays arrived in a wasty condition, but other varieties were sound. Prices for three-quarter cases were:—Almeria Ohanez, 15/- to 16/-; Black Malaga, 13/- to 13/6; Wortley Hall, 16/-; White Wortley, 10/6.

The Tasmanian Apples carried by "Otranto" were of moderate quality only. Ribstone Pippins were immature and spotty, selling at 10/6 to 13/- a case; Cox's were somewhat pitted and realised 16/- to 19/-. Other prices were:—Jonathans, 13/6; New Yorks, 13/- to 15/-; Munros, 13/-; Cleopatras, 14/-; Blenheim,

12/6 to 13/-; Alexanders, 11/- to 13/-; and Mobbs, 10/6 a case.
London (26/4/27).

West Australian Apples shipped to Hull by the steamer "Largs Bay" realised:—Cleopatras, 17/- to 17/6 a case; Jonathans, 15/- to 15/3; Dunn's Seedling, 16/- to 17/-; and Granny Smith, 19/- to 22/6 a case.

AUSTRALASIAN MARKETS.

New South Wales.

Sydney (21/4/27).

Mr. F. Chilton, City Fruit Markets, Sydney, reports:—

Queensland Fruits.—Bananas, 18/- to 32/- per case; Pines, Smoothleaf, 7/- to 18/-.

New South Wales Fruits.—Bananas, 18/- to 35/- per case; Lemons, 10/- to 18/- per bushel case; Oranges, second crop, 6/- to 16/-; Apples, F.C.P., 8/- to 11/-; G.S., 12/- to 16/-; Pears, P.T., 10/- to 14/-; W.C., 10/- to 14/-; Quinces, 8/- to 10/-; Passions, 6/- to 11/- per half case; Persimmons, 2/- to 4/-; Grapes, Black Muscat, 4/- to 16/-; Cornichon, 7/- to 10/-; White Muscat, 6/- to 10/-; White Sherry, 5/- to 7/-; Ohanez, 6/- to 8/-; Tomatoes, 2/6 to 7/-; Cucumbers, 1/6 to 4/-.

Victorian Fruits.—Peaches, 10/- to 15/- per bushel case.

Tasmanian Fruits.—Apples, Jon., 9/- to 12/- per bushel case; F.C., 10/- to 12/-; D.C., 8/- to 11/-; Alf., 8/- to 10/-; S.P.M., 8/- to 12/-; Geeveston Fanny, 8/- to 11/-; T.P., 8/- to 11/-; N.Y.P., 8/- to 11/-; Pears, W.N., 4/- to 7/- per half case; W.C., 4/- to 7/-; Duchess, 4/- to 6/-; Nap., 3/- to 4/-.

The recent gales and heavy rains have disorganised trade generally, but it is expected that conditions will soon improve with the return of fine weather. A good demand exists for choice lines of Apples and Pears, but owing to the non-arrival of the "Riverina" this week, there is a shortage of supplies.

Victoria.

Melbourne (26/4/27).

Prices ruling at the Western Market are as follows:—Apples, good to choice eating, 11/-, 15/-; good to choice cooking, 10/-, 12/-; Tasmanian, 10/-, 15/-; Bananas, Queensland, choice, 28/-, 30/-; standards, 22/-, 24/-; Grapes, Doradillo, 6/-, 7/-; Waltham, 9/-, 11/-; special quality, 14/-, 16/-; Muscatels, 9/-, 10/-; Red Prince, 9/-, 10/-; Ohanez, 10/- to 11/-; Lemons, Victorian, 13/-, 16/-; American, 45/- double case; Mandarins, Queensland, 28/-, 30/-; Oranges, Queensland, 20/-, 23/-; imported, 55/- double case; Passion

Fruit, Victorian, 10/- to 11/- half case; Pineapples, Queens, 18/- to 20/-; Pears, Keiffers, 11, 12/-; B.B., 13/-, 14/-; W. Cole, 12/-, 13/-; Tomatoes, 9/-, 10/-; Quinces, 7/-, 8/-.

Queensland.

Brisbane (16/4/27).

Lemons, prime, 5/- to 6/-; others, 3/- to 5/- a half case; Limes, 4/- to 5/-; Pineapples, smooth-leaf, 6/- to 10/- a case, 1/6 to 7/- a doz.; rough-leaf, 4/- to 12/- doz., 8/- to 15/- a case; Passion Fruit, 4/6 to 10/-; Stanthorpe Grapes, black, 3d. to 6d. lb.; white, 3d. to 6d.; Muscatels, 6d. to 7d.; W.C., 8d. to 10d.; G.C., 5d.; M., 8d. to 10d.; O.H., 8/- to 9/- a case; Apples, 8/- to 14/-; cooking Apples, 8/- to 14/- a bushel case; Papaws, 5/- to 7/6; Mandarins, 8/- to 10/- a half case; Navel Oranges, 11/- to 15/-

22/3; Lemons, prime, to 8/6; Pears, Bartlett's, prime, to 15/6; Josephine, prime, to 9/-; Passion Fruit, three-quarter bushels, to 16/-; half bushels to 11/9; quarter bushels to 7/-.

Tasmania.

Hobart (16/4/27).

Apples, Del., No. 1 (superior quality), 13/- per case; No. 2 (medium quality), 7/- to 8/6; Jon., No. 1, 8/9 to 10/6; No. 2, 6/- to 7/-; S.P.M., No. 1, 6/- to 7/-; No. 2, 4/9 to 5/-; C.O.P., No. 1, 7/-; No. 2, 5/3.

New Zealand.

Dunedin (14/4/27).

Messrs. Reilly's Central Produce Mart Ltd., report that the market is distinctly in favor of buyers excepting in Tomatoes, which are practically finished for the season. Prices are as follow:—Local Grapes, 1/3, 1/9; Gros Colmans, 2/2; Oamarus, 9d. to 1/4½; Plums, choice desserts, 3d., 4d.; Coe's Late Red, 2d., 3d.; Peaches, Jam, 3d.; desserts, 5d., 7d.; Pears, choice desserts and bottling, 2½d. to 3½d.; cooking, 2d.; Walnuts, 10d.; Peanuts, choice, 5d.; Christchurch Tomatoes, choice, to 4d.; mediums, 2½d.; Otago Centrals, 4d.; locals, 5d., 7d.; Queen Pines, 25/-; N.Z. Passions, halves, 5/-, 7/-; Apples, Cox's, 10/-, 14/-; Delicious, 8/-, 10/6; Dunn's, 6/6; Alfristons, 6/-, 7/-; Lord Wolseleys, 7/-; Mobbs Royal, 15/6; inferior Apples, 2/6 to 4/- per case; Quinces, 6/6, 9/-; Lemons, Californians, 300/360's, Mission Brand, 42/6; Oranges, American Navels and Valencias, 42/6; Rarotongans, 35/-; Grapefruit, 33/-; Blackberries, 4d. to 9d.

AUSTRALIAN APPLES FOR LONDON CHILDREN.

Cable messages from London early in April stated that the first shipment of Australian Apples which arrived on the "Ferndale" was publicly received by the High Commissioner (Sir Joseph Cook), the Agents-General, representatives of the press, and the experts of the Empire Marketing Board.

Sir Joseph Cook, addressing the assembly, including 40 East End school children, said that the more Apples England bought the more migrants Australia could absorb. The children took the hint, and filled their pockets as the cases were opened. Some slit their pocket linings in order to get more in. When they had had their fill lustily they sang a parody of the comic song, "There Ain't Gonna Be No Core."

PUBLICITY FOR NEW ZEALAND APPLES.

New Zealand is this season conducting an intensive publicity campaign on behalf of its export fruits. The campaign in London was opened on March 28, when a huge placard reading "New Zealand Apples Have Arrived," stretched across the Strand.

At the High Commissioner's office the High Commissioner (Sir James Parr), in welcoming the Secretary of State of Dominion Affairs (Mr. Amery), acknowledged Britain's help in marketing research, and expressed the hope that it would lead to an improvement in the ration of the consumption abroad of Empire fruits.

Mr. Amery, who was photographed beside a pyramid of Apples and flowers, recalled his last visit to New Zealand, and said that he hoped, when

'Phone Central 8479

F. W. Vear

Fruit Importer
and Exporter

COMMISSION AGENT

49 WILLIAM ST.,
MELBOURNE, VIC.

Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.

Account sales with cheque daily.

The Parliamentary session ended, again to see the Dominions, renew his old and abiding impressions, and, if it were possible, to fortify his faith in the Dominions' future. He was confident that the Marketing Board's inquiries would produce suggestions of great value to Empire trade. The fact that New Zealand's fruit exports since the war had increased twenty-fold, was a wonderful tribute to her organisation and enterprise. He urged producers to bear in mind the value of the Continent of Europe market, which was a useful "overflow" from the British market.

A Dark Job.

The stingy farmer was, scoring the hired man for carrying a lighted lantern to call on his best girl.

"The idea," he exclaimed, "when I was courtin' I never carried no lantern; I went in the dark."

"Yes," said the hired man sadly, "and look what you got."

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt

account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

a bushel case; Custard Apples, 4/- to 7/6 a case; Oranges, 10/- to 13/- a bushel case.

South Australia.

Adelaide (21/4/27).

Apples, eating, 14/- to 16/- per case; cooking, 10/- to 12/-; Bananas, 35/- to 40/-; Grapes, dark, 10/- to 12/-; white, 10/- to 12/-; Lemons, 12/- to 14/-; Melons, pie, 5/- per cwt.; Nuts, Almonds, 12/- to 15/- per doz. lb.; Peanuts, 10/- to 11/-; Walnuts, 12/-; Oranges (Mandarin), 16/- per case; Passion Fruit, 20/-; Pears, eating, 10/- to 12/-; cooking, 6/- to 8/-; Pineapples, 16/- to 18/-; Quinces, 5/-; Strawberries, 1/- to 1/3 per doz. lb.

Western Australia.

Perth (15/4/27).

Apples, Jonathan, prime, to 14/-; Cleos., prime, to 9/6; Granny Smith's, prime, to 12/9; Delicious, prime, to 10/-; Valencia Oranges, prime, to

South Australia

Citrus Crop Prospects :: Orchard Notes for May
Glen Ewin Jam Factory

ORCHARD NOTES FOR SOUTHERN DISTRICTS FOR MAY.

(By C. H. Beaumont, Orchard Instructor.)

Planting.

THIS MONTH will be one of preparation for winter work; probably the first thing to be attended to will be planting of young trees. It will of course, depend on the weather; but as soon as the ground will break up nicely, the nurseryman can lift the trees and planting may proceed. Have the land well prepared beforehand, so that all that is necessary is to clean out the holes and get the trees in. Do not plant in land unless it has been sweetened by being fallowed for at least one season. Do not waste time and trees by planting in the scrub. Do not plant deeply; the crown of the tree should not be more than 4 in. deep, and the roots should slope downwards to about 7 in. or 8 in. Fasten the young tree to a stake to help it to get a firm hold. Prune as soon as possible after planting.

Give young Citrus trees some water if rain be delayed.

See that ploughs and implements for working the land are in good order and ready for work; harness and chains also need attention.

Get drying trays and picking bags and cases cleaned out and housed away. Spray pumps and fittings need to be thoroughly cleaned before being put away; this applies especially to hoses and nozzles.

Pruning

may be commenced; do the stone fruits first, then the Grapes, and finish with the Apples and Pears. Make sure that secateurs and saws are sharp and clean. Prune bearing trees lightly as a general rule; young trees need to be pruned according to the growth, to make a stiff frame.

Plough to the trees as soon as you conveniently can, and leave in the rough, taking care to make ample getaway for flood waters.

Remember that fruit in cool store requires attention and repacking at intervals.

Citrus trees will need watching for "brown rot"; keep the lower limbs well off the ground, and do not allow

water to remain about the trees. Straw of any kind serves a good purpose if spread under the tree, by preventing splashing.—"Journal of Agriculture."

SOUTH AUSTRALIAN CITRUS CROPS.

Report of Citrus Crop Prospects.

Salisbury District.—Navels, only medium crop; Commons, light, about half of last year's crop; Mandarins, practically a failure, except Jap. seedless, which have a medium crop.

Torrens Valley.—Navels, fair; Commons, very light; Mandarins, medium only, several varieties very light. The

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E. 14 England

GENUINE KUNDE

Budding & Grafting Knives

also Pruning Secateurs

NOW AVAILABLE

Prices on application to

L. P. ROSEN & SON
NURSERYMEN

EPPING - - N. S. Wales

crop is much lighter than that of last season. Growers are watching with interest trees which have been fumigated with "Cyanogas," a treatment comparatively new to South Australia. As the work can be done during daylight, and the cost consequently lessened, it is likely to super-

sede other methods if experiments prove its efficacy. A demonstration to be held in Mr. J. H. Hobb's orangery on April 22 is likely to be largely attended.

Mr. D. D. Penny, from California has been visiting Citrus growing districts in S.A., and attended a demonstration of spraying with "Volck" at Mr. V. Schulzes' recently, when a number of scale-infested trees were treated with this spray, which is now used in great quantities in California, but is quite new to S.A. The plots are open to growers' inspection, and no doubt will be critically examined.—W. J. Kimber, Sec. S.A. Fruitgrowers and Market Gardeners' Association.

MURRAY CITRUS GROWERS' ESTIMATE.

Estimates of the Citrus production for 1927 are not yet available, but it is anticipated that the yield will be about equal to last year's output, which was in the region of 140,000 cases. This, of course, refers to the output of members of our Association only. The yield for the State may be regarded as a fair average crop.—J. A. Parkes, Secretary, Murray Citrus Growers' Co-op. Association Ltd.

AUSTRALIA'S OLDEST JAM FACTORY.

Glen Ewin, S.A.

THE oldest jam factory in Australia is said to be that of Messrs. Geo. McEwin and Sons Ltd., at Glen Ewin, in the hills near Adelaide, South Australia. The factory was visited by delegates to the recent Retail Grocers' Association Conference at Adelaide, and the following interesting account of the establishment of the firm is given in the "S.A. Storekeepers' and Grocers' Journal."

The founder of the firm was a Highlander, who, forced to leave his native hills by reason of shattered health (the result of exposure in all weather pursuing his occupation as a botanist), set sail for South Australia, where he landed in 1839, very soon after its foundation. . .

In those early days there was no opening for a botanist. A man's living had to be obtained from the soil, so George McEwin planted gardens and orchards, and grew fruit, and here he came up against great difficulties, for it was one thing to grow fruit and another thing to sell it in those days of small population with smaller spending power.

In the summer of 1862 the crisis occurred, which was to make all the difference to the fortunes of the

McEwin family. In the summer of that year, Robert McEwin (the present head of the family) was sent to Adelaide with a load of fruit, and, failing to find buyers at any price, he was forced to dump his load in the park lands and return with no fruit and no money either. Fruit was in a glut—something had to be done, so reasoning that if made into jam the jam would keep, and possibly sell at a later date; coppers were purchased and installed, and the crop boiled down for jam.

From this small beginning has grown the present organisation which employs many hands, and which has been in continuous working for 65 years, during which time the firm has had its share of ups and downs.

The workers employed come from the neighbourhood; many have spent their lives in the factory. One old hand (Mr. Gilliard Johns) has seen 55 years' service, others show 30 to 40, and another has been pensioned off after 51 years; in all the history of the undertaking there has never been a hint of trouble between employer and employed.

The factory itself is a model of cleanliness and order.

Boiling is conducted in steam-heated coppers, with a capacity of eight cases of fruit each, steam being supplied by two large Cornish boilers. The filling is done by hand, which is found preferable to mechanical filling, and probably quite as speedy.

The tins are made on the premises by automatic machinery; the fixing of lid after filling is also done by a machine, which applies such pressure in crimping over the edges that leaks are almost unknown.

The tins are filled while the jam is hot from the coppers, so hot that the workers have to use gloves in handling them at the capping machine. After capping the tins are run through a bath of hot water, from whence, by mechanical and gravity conveyors, they reach the labelling and packing department.

Excellent Tomato sauce is also made from Tomatoes grown in the district. There is a large pulp store, where tons of fruit pulp are stored to keep the factory going through the winter. A freshwater well provides 25,000 gallons per day. The little shed cut into the side of the hill, where the first jam-boiling was done, may still be seen.

No gospel founded on hate will ever seize the hearts of our people. There are four words of salvation for this country and the whole world, and they are Faith, Hope, Love, Work.—Stanley Baldwin.

NAMING OF APPLES.

In regard to the championship for eight varieties of Apples and four of Pears at the Diamond Creek Show, a report states that some difficulty was experienced by the judges, as in both the first and second exhibits Rome Beauty and Red Rome were shown as distinct varieties, whereas the judges held that they were both Rome Beauty, and therefore could not be shown as distinct varieties. The question was submitted to the Committee for decision, and it was decided that no objection would be taken to

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and
— economical on the market —
We manufacture a complete range
— of Sprays for the Orchardist —
including Arsenate of Lead (paste
and powder), Lime Sulphur, Red
Spraying Oil, Copper Soda Mixture,
Benzole Emulsion, Spray Spreader
etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES
Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

the staging of them as distinct varieties on this occasion.

As a similar position might arise at future shows it would seem that a definite ruling should be adopted for all societies. The Pomological Committee does not class these Apples as distinct, but classifies Red Rome Beauty as a bud variation of Rome Beauty only, and not as a distinct variety.

AGENTS OF THE "HARVEY" LINE OF IMPLEMENTS.

The "Harvey" farm and orchard implements are stocked by the following agents in the various States:—

Victoria.—F. R. Mellor, 440 Elizabeth-street, Melbourne; G. Higgins, "Erica," Red Hill; A. W. Hodgins, Hastings; R. Ramage, Pakenham East; Dove and Chaffey, Mildura; Muntz and Green, Red Cliffs; W. Hobson, Vinifera; F. Baxter, Koraleigh, via Nyah; Tresco Citrus Growers' Association, Tresco; Wangaratta Citrus Growers' Association, Wangaratta; H. J. Willoughby, Tyabb; Ennis and Co., Amphitheatre; Victorian Producers' Co-op. Co., 589 Collins-street, Melbourne; G. W. Stewart, Kyabram; H. O'Brien, Rutherglen; A. W. Potter, No. 15 City Market, Hargreaves-street, Bendigo; S. Youlden, Merrigum; W. Shannon, Rochester; S. J. Button, Shepparton; Harcourt Fruit Supply Society, Harcourt; H. R. Winter, Belmont.

Western Australia.—Harris, Scarfe and Sandover Ltd., Hay-street, Perth.

New South Wales.—F. Chilton, Box 43 Haymarket P.O., Sydney, N.S.W.; J. S. Oag, Leeton, N.S.W.; Griffith Producers' Co-op. Co., Griffith; Yenda Producers' Co-op., Yenda; G. Ross, Barham; Hammond and Hanlon, Burrowa-street, Young; A. G. Walker, Bathurst.

Queensland.—W. Lovelock and Co., Roma-street, Brisbane; Bowen Fruit Export Association, Bowen, Queensland; Baker Bros., Thulimbah.

South Australia.—R. E. Townsend and Son, 15 Adelaide-street, Maylands; H. M. Harrison, Berri; F. H. Frith, Waikerie; Dennis Trading Co., Renmark.

Tasmania.—F. W. Debnam, 49 Burnett-street, North Hobart; Bell and Gerrard, 200 Cimitiere-street, Launceston; T. Rosevear, Devonport.

(Continued from page 186)

class for the best four dishes of export Apples was keenly contested, Mr. E. F. Weiland, of Wantirna, winning by a narrow margin from Mr. J. Crossman. The varieties staged by Mr. Weiland were Statesman, Rome Beauty, London Pippin and Stone Pippin. Mr. Crossman showed the same varieties, with the exception of London, which was replaced by Jonathan. The winner was also the most successful competitor in the Apple section, being awarded 14 first and six second certificates.

The Pear section fell far short of previous years, and the fruit, while well grown, did not show that uniformity of type or shape seen in normal seasons.

QUEENSLAND

ORCHARD NOTES FOR MAY.

The Coastal Districts.

Curing Lemons.

CITRUS GROWERS are again warned of the risk they run by sending blemished fruit to southern markets, owing to the liability of injury from blue-mould, and are urged to exercise the greatest care in the handling of their fruit.

Main crop Lemons should be cut and cured now, instead of being allowed to remain on the tree to develop thick skins and coarseness. As soon as the fruit shows the first signs of color or is large enough to cure down to about from 2½ to 2¾ in. in diameter, it should be picked, care being taken to handle it very gently, as the secret of successfully curing and keeping this fruit is to see that the skin is not injured in the slightest, as even very slight injuries induce decay or specking. All Citrus fruits must be sweated for at least seven days before being sent to the Southern States, as this permits of the majority of specky or fly-infested fruits being rejected.

Planting Citrus Trees.

Citrus trees may be planted during this month, provided the land has been properly prepared, and is in a fit state to receive them; if not, it is better to delay the planting till the land is right.

In planting, always see that the ground immediately below the base of the tree is well broken up, so that the main roots can penetrate deeply into the soil and not run on the surface. If this is done and the trees are planted so that the roots are given a downward tendency, and all roots tending to grow on or near the surface are removed, the tree will have a much better hold of the soil, and, owing to the absence of purely surface roots, the land can be kept well and deeply cultivated, and be thus able to retain an adequate supply of moisture in dry periods. Do not forget to prune well back when planting, or to cut away all broken roots.

All orchards, Pineapple and Banana plantations should be kept clean and free from all weed growth, and the soil should be well worked so as to retain moisture.

Custard Apples will be coming forward in quantity, and the greatest care should be taken to see that they are properly graded and packed for the southern markets, only one layer of one sized fruit being packed in the special cases provided for this

fruit—cases which permit of the packing of fruit ranging from 4 to 6 in. in diameter in a single layer.

Slowly acting manures—such as meatworks manure—may be applied to orchards and vineyards during the month; and lime can be applied where necessary. Land intended for planting with Pineapples or Bananas during the coming spring can be got ready now, as, in the case of Pineapples, it is a good plan to allow the land to lie fallow and sweeten for some time before planting; and in the case of Bananas, scrub fallen now gets a good chance of drying thoroughly before it is fired in spring, a good burn being thus secured.

The Granite Belt, Southern and Central Tablelands.

Clean up all orchards and vineyards, destroy all weeds and rubbish

SYDNEY:

Fruit Commission
Merchants Agents

S. & M. Greenberg

No. 1 Store
Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

likely to harbor fruit pests of any kind, and keep the surface of the soil well stirred, so as to give birds and predaceous insects every chance to destroy any fruit fly pupae which may be harboring in the soil. If this is done, many pests that would otherwise find shelter and thus be able to live through the winter will be exposed to both natural enemies and cold.

Further, it is a good plan to clean up the land before pruning takes place, as, if delayed till the pruning has been finished, the land is apt to dry out in a droughty season.

Pruning can be started on such varieties as have shed their leaves towards the end of the month. Early-pruned trees develop their buds better than those pruned late in the season. This does not refer to vines, as the later vines are pruned in the season the better, in the Granite Belt district, as they stand a better chance of escaping injury by late spring frosts.

All worthless, badly-diseased, or worn-out trees that are no longer

profitable, and which are not worth working over, should be taken out now and burnt, as they are only a menace and a harbor for pests.

Land intended for planting should be got ready as soon as possible, as, if ploughed up roughly and allowed to remain exposed to the winter frosts, it will become sweetened and the trees planted in it will come away much better than if set out in raw land. In any case the land must be properly prepared, for once the trees are planted it is a difficult matter to get the whole of the land as well worked as is possible prior to planting.

Slow-acting manures (such as ground phosphates or basic phosphates) and lime, may be applied to orchards and vineyards where necessary. This is a good time to attend to drains; surface and cut-off drains should be cleaned out, and the outlets of underground drains examined to see that there is a good getaway for the drainage. New drains may be put in where required.

In the warmer parts, Citrus fruits will be ready for marketing, and Lemons ready for cutting and curing. (See notes under Coastal district.) Lemons grown inland are, as a rule, of superior quality to those grown on the coast, but are apt to become too large if left too long on the trees, so it is advisable to cut and cure them as soon as they are ready. If this is done and they are properly handled, they may be kept for months and will be equal to any that are imported.

If the weather is very dry, Citrus trees may require an irrigation, but unless the trees are showing signs of distress, it is better to depend on the cultivation of the soil to retain the necessary moisture, as the application of water now is apt to cause the fruit to become soft and puffy, so that it will not keep or carry well.

Land intended for new orchards should be got ready at once, as it is advisable to plant fairly early in the season in order that the trees may become established before the weather again becomes hot and dry. If the ground is dry at the time of planting, set the trees in the usual manner and cover the roots with a little soil; then give them a good soaking; and when the water has soaked into the soil, fill the hole with dry soil. This is much better than surface watering.—Extracted from "Queensland Agricultural Journal."

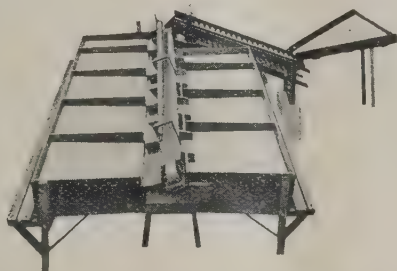
"Why should Jack Dempsey be World's Champion?"

"Well, who's got a better right?"

"To Choose the Best is Wisdom"

CITRUS GROWERS!

A Word About Your Coming Season



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

Australia needs up-to-date marketing methods. We have made a particular study of Citrus requirements and our knowledge is at your disposal.

We specialise in full packing house requirements, including Brushers, Driers, Automatic Weighers etc.

Also specially designed packing house sizers (allowing for any number of bins) for any one size, which will size Mandarins, Oranges, Lemons and all other fruits.

WRITE FOR FULLER PARTICULARS

Our Catalog also shows a range of 14 models of Fruit Sizers, any one of which is suitable for the grower who packs his own fruit

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

Propagation and Selection of Fruit Trees

(By J. M. Ward, Superintendent of Horticulture, Victoria)

(Broadcast by 3LO Melbourne, April 11, 1927.)

IN SPEAKING upon this very important question, one is faced with the fact that there are really no new features to discuss—that is, I have spoken upon this subject so many times in different parts of Australia during past years, and I feel there is nothing new to add. Nevertheless, the fact remains, that we are no further ahead than we were 20 or more years ago.

but what is the good of opinions unless they are based upon facts? And it is statements of facts that we require, but which are hard to secure, for the simple reason that, scientifically, we have left a great deal undone in making investigations into various horticultural problems, among which can be placed the affinity between stock and scion, and the selection of buds or scions.

The average commercial fruitgrower does not, unfortunately, give sufficiently deep thought to the subject of tree selection or the individual yield of each tree in his orchard. This raises the question, "Why do we plant fruit trees?" The obvious reply is, of course, "To produce fruit." Then the question can be put, "Is the production of fruit from the trees for the planter's domestic use, or for the purpose of obtaining a comfortable living from the sale of it?" If for home consumption, one must view the position from quite a different aspect from that adopted when planting fruit trees for commercial purposes.

In this talk, the speaker desires to deal with this subject purely from the commercial grower's point of view. We therefore plant our trees with a view of inducing each individual tree to produce the maximum amount of marketable fruit at a minimum of labor and cost. To obtain this result a great deal of course depends upon the attention given the tree during its life. Under good management, excellent results may be achieved; poor or inefficient management may mean whole or partial failure. Even under the most efficient management a good start is absolutely essential; therefore, trees of good breeding only should be planted. This cannot be obtained without study and labor.

How Trees are Raised.

One hates to be putting the same material up to growers year after year, yet, to bring about an improvement in the quality of tree to be planted in the future, it is essential to continually bring the matter under the notice of those who count, that is, the fruitgrower and the fruit tree nurseryman. Only a week or two ago, an old and successful grower in this State asked the speaker the following question:—"Mr. Ward, why is it that our Apple trees are not giving us the annual crops that they did a few years ago?" Such a question cannot be easily answered, although, of course, opinions can be expressed,

At this juncture, it may be well to give a brief outline of the raising or propagation of fruit trees. The majority of Apple trees in Australian nurseries, for instance, are raised by the following method:—Northern Spy (a variety of Apple) stock, or young trees of this variety are planted in nursery rows and cut down to the surface level of the soil; during the spring and summer this stock sends forth new growth. A few inches of soil is then heaped up around the new growth and thus induces roots to grow on what would naturally be the aerial portion of the plant.

When the growth in question is large enough it is taken from the parent plant—during the dormant season—and put out in nursery rows, where the bud of the variety required is worked upon it and this becomes the future tree. This stock plant is usually referred to as a “stool.”

Another way of producing the Apple stock is by grafting portion of the under part of the Northern Spy on to a few inches of root of this variety. The scion or grafted part—after planting out—then throws out roots which become the future main roots of the tree; the bud or scion is then worked on to this stock, which is, in reality, a cutting, just the same as the stock from the stool is a sucker. These “suckers,” as they grow, are removed year after year

from the parent plant, and naturally enough as the “stool” becomes aged, the “suckers” cannot have the same vitality as the first-removed had, and therefore must necessarily be weaker and less able to withstand the many trials that are required of the Apple tree.

This, to some extent, may be a reply to my friend who asked the question, why Apple trees were not yielding the good average crops that they formerly did? There are other reasons, too. Most of the old established and best Apple trees in Tasmanian orchards were propagated by budding or grafting the required variety on to a stock produced direct from a seed, thus new life was created naturally having greater vigor and more vitality.

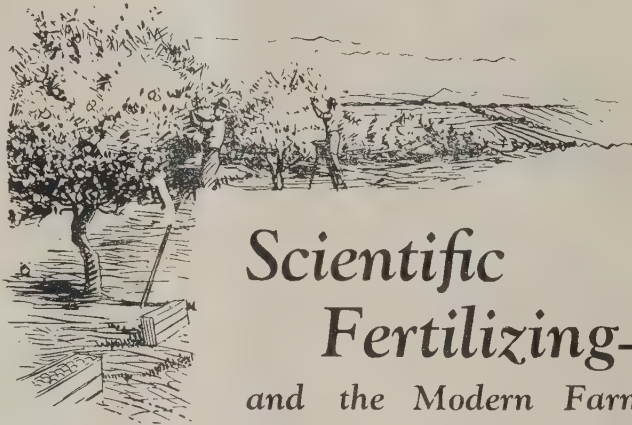
Kind of Stock.

In respect to the raising of Pear and Plum trees, these fruits were one time propagated by sowing the seed of vigorous-growing kinds, then working the variety required directly on to the seedling about a year later. During the past few years, however, there has been a tendency to raise Pear and Plum stocks from cuttings, and then bud or graft with the required kind. From the speaker's knowledge of fruit trees and their habits, it is anticipated that we will have many problems to solve in the future, as the result of getting too far away from nature. We should, as far as it is possible and practical, keep to the stock raised from seedlings, not overlooking the fact that careful thought and attention are necessary in making a selection of type and variety most suitable for the purpose. Apricots and Peaches are worked directly on to seedling stock, so also are Citrus fruits. Speaking on Citrus stock brings to mind the much debated question: “What is the best stock to use for Oranges, Lemon, Sweet Orange, or sour Orange stock?” As with other fruit tree stocks, little or no scientific investigation has been made in Australia on this very important subject; still, from laboratory tests made and field knowledge of the question, Victorian Departmental officers have every reason to believe that the sour or Seville Orange stock suits our conditions better than the Lemon stock.

From a nurseryman's or propagator's point of view, the Lemon is the best stock to work, as the buds “take” much more easily on the Lemon than they do on the sour stock; in other words, it is not so skilful to bud Lemon as it is to bud sour Orange stock, and this is the reason why the majority of our Orange trees is worked upon Lemon stock.

The Right Type of Bud or Graft.

Whilst the importance of having the right type and variety of stock cannot be overlooked, another very important matter is the selection of the right type of bud or graft. Whilst many of us may not agree upon what is the best class of stock to use—through lack of knowledge based upon scientific investigation—no sane person can disagree upon the necessity of selecting buds from trees that have proved themselves to be profitable producers of high quality fruits. Every Citrus grower is well aware that he can pick quite a number of types of fruit from almost any tree in his grove; some are poor, some indifferent, and some are excellent types of fruit. With a little care on the part of the grower, every tree would produce the



Scientific Fertilizing— and the Modern Farmer

That's the title of a booklet which describes the wonderful new highly concentrated Complete Fertilizer which accomplished such astounding results for so many Fruit Growers last season.

Letters from orchardists who used it last year, are coming to hand, not only telling us it is the best Fertilizer they have ever used, but assuring us of all their future business.

VICTOR PLANT FOOD

That's the name of the wonder working Fertilizer which can have so much to do with your future Fruit Growing Success.

There is a free copy of this booklet available for you. Write for your copy to-day. Find out how Science can contribute to Your Success. Learn why, by using Victor Plant Food, you are assured of better, bigger crops—and at the same time, conserve precious time—eliminate wasteful cartage—and save costly, unnecessary labour. Ask for Booklet “F.” Better do it now—right away, whilst the thought is before you.

VICTOR PLANT FOOD & GARDENING Co. Pty. Ltd.

136 Dandenong Road, Caulfield

(Works at Dandenong)

good type in payable quantities. If, however, the wrong type of tree is planted, poor or indifferent fruit must result.

The selection of the correct kind and type of tree opens up a very important subject, much more than may appear on the surface. Unfortunately, the subject does not receive the attention that it is deserving of in Australia. There are two sets of people responsible for the lack of interest displayed in the selection of the correct type and strain of fruit trees. One is the nurseryman who propagates trees to sell, and the other is the fruitgrower who plants trees for the fruit they produce. Apparently neither party has given serious consideration to the productive value of each tree. Every tree that is planted in an orchard is for a definite purpose, and that purpose is to yield each year an amount of fruit that will pay, not only for the cost of its upkeep and interest on capital, but a margin of profit for the grower. Unless each tree will do this, it should not have a place in the orchard. A fruitgrower who keeps a non-profitable tree in his orchard can be compared with a dairyman who keeps a dry cow all the year round.

"Pedigreed" Trees.

Having this in mind, the planter should insist upon the nurseryman supplying him with a tree having a good rooting system, on to which is worked a bud or scion taken from a tree that is known to be healthy, vigorous growing, and one that produces good crops of the correct type of fruit each year. In other words, each tree should be a pedigreed one, just the same as the successful dairyman carefully tests each cow in his

dairy herd and gradually eliminates the "duds." In this, however, he—the dairyman—is the selector, whereas the orchardist depends upon the nurseryman to provide him with his trees. If the planter insisted upon the nurseryman supplying the pedigree of the trees sold him, particularly in the case of Citrus trees, the productive results per orchard would be infinitely greater. In supplying the pedigree of the tree it should be stated the kind of stock the bud or scion is worked upon, how it was propagated, i.e., from seed, sucker, or cutting—from where the buds or scions were obtained, and the type and productivity of fruit and tree. In this respect closer co-operation of the nurseryman and the grower is necessary.

Californian Experience.

In speaking upon this subject, the speaker has in mind the splendid work conducted by Professor A. D. Shamel and his associates at Riverside, Southern California, in connection with the selection of the right type and strain of budwood for the propagation of Oranges and Lemons; also for top-working of "dud," or what may be termed "shade-trees," with buds carefully selected from trees producing heavy crops of the type of fruit required. In other words, where a "dud" or poor producing tree is discovered in an orchard, it is cut down and top-worked to a better and more productive kind. So very important has this work become in California that the Citrus Fruit Exchange (a most successful co-operative body) has formed a separate company for the purpose of selecting and the supplying of buds to shareholders of the various Citrus co-

operative companies. The writer came in contact with a nurseryman in Watsonville, California, who was paying a high yearly rental for the right of cutting budwood from 12 Apricot trees which annually produced heavy crops of magnificent fruit. All his Apricot trees were propagated from buds selected from these 12 trees. The speaker inspected the trees and also full-bearing orchards (with crops on) propagated from the buds in question, and was more than satisfied with the results.

A large fruitgrower from the Goulburn Valley some time ago informed me that he had for several years grown his own trees, worked from carefully selected buds. This has resulted in his orchard averaging him nearly ten tons of Peaches per acre per annum, whilst the average for the Goulburn Valley is less than four tons per acre per annum. The foregoing points out how necessary it is to secure and plant the right class of tree, but this will not be done unless the grower insists upon it, and takes greater interest in this class of work. Therefore, it is desirable that both the orchardist and the nurseryman should have this matter placed before him at frequent intervals, and until a real and practical start is made to bring about an improvement, any move for betterment must emanate from the fruitgrower, as he has the most at stake.

To raise a tree for quick sale is one thing; but to plant, cultivate and tend a tree to cause it to produce profitable crops over a long period of years is a totally different proposition, and this is the orchardist's side of the question, therefore please give the matter more and deeper thought.



Fruchthof-Bremen

Fruchthandel Gesellschaft Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen

Established 1902

AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

Tasmania: Messrs. E. R. Cottier & Co., Hobart.

ORGANISED MARKETING INFORMATION.

Government Bureau in California Compiles Valuable Data, Assists Co-operatives, but does not propose Control Boards or Government Trading.

ALTHOUGH great strides have been made in organising the various sections of the fruit industry in California, there yet remains much to be done, as will be noted from the following information supplied by Mr. R. L. Adams, Chief of the Division of Markets, published in the "California Cultivator" recently.

The Division of Markets (formerly the State Market Commission) of the State Department of Agriculture, was reorganised June 1, 1926, with R. L. Adams as Chief and W. W. Bedford as Assistant Chief. On July 1, Carl A. Scholl (Marketing Specialist) and W. L. Jackson (Marketing Assistant) were added. This personnel constitutes the nucleus of a new organisation formed to aid, further and develop present and potential markets for California agricultural products, to bring about better relations between producer, consumer and middleman; and to collect, analyse and interpret technical data bearing

on production, distribution and consumption, including tariffs, railroad and other transportation rates, and costs of production.

To properly function the division of markets must be prepared to fairly serve all who are interested in the production, distribution and consumption of farm products.

Working Plan.

The division of markets presents a working plan, based upon the premises authorised above by which, to the best of its resources, will proceed along the following lines:—

Trace shipments and run down complaints for producers, and report as to condition at time of arrival, quality, conformity with local market demands, price at which sold, parties to whom sold, effect adjustments, speed up delayed payments, arbitrate trade differences when compatible.

Advise as to financial reputation and responsibility of distributors, including commission men, to the limit of obtainable information.

To assist, when requested, growers who desire to form co-operative organisations or to aid existing co-operatives.

To seek out new markets, to increase consumption, and to indicate trends of production. A study is now being made of the consumptive capacity of various markets for different fresh fruit and vegetables with a view to establishing a standard.

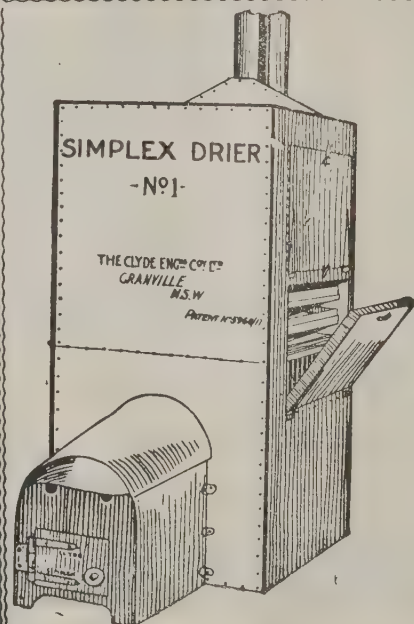
A study is to be made of California roadside markets to test the feasibility of expanding after taking into account possible improvements and the cost of doing business. Legislation is to be considered, designed to license, bond and regulate commission men.

As a premise, one must be prepared to answer the question as to the desirability of this type of legislation, the answer to which should result by a study of the outcome in other States, and to be supplemented with a complete resume of the pros and cons to be ready for the guidance of those who are interested in legislation of this type.

To prepare crop selling contracts and agreements when requested, which shall be equally binding upon



GIBBS, BRIGHT & CO.—See Page VI



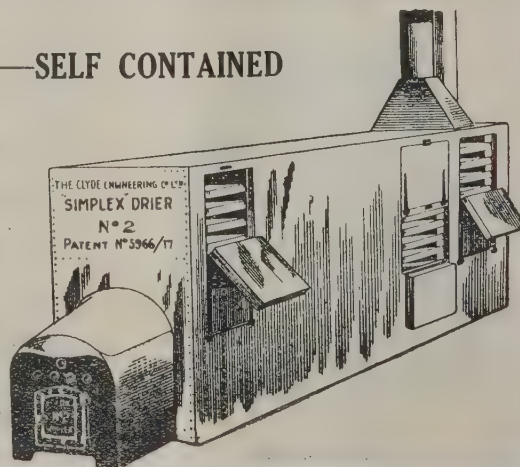
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
OR
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

buyer and seller of farm products.

Undertake to bring together producers and buyers in order to move products in wholesale quantities, eliminate where possible the high selling expense resulting when local buyers cover much territory, to speed up slow or stagnant markets.

Attempt to bring about more economical local distribution.

To create a California Marketing Council to act in an advisory and stabilising capacity, the membership of which is to be made up of representatives of all interests—producer, consumer, distributor (including co-operatives), transporter, converter, financier, and to be subdivided into groups. General and zone meetings are to be held when necessity requires. To be broad in representation and activity, its object to endorse, advocate and work for those marketing practices which will be best suited to California. To be subjected (according to present plans) to neither constitution, by-laws, nor dues.

It is not expected that this working plan is all-inclusive. New problems will arise, old problems will appear in different forms. Some elasticity is needed in any plan to provide for emergencies and contingencies. It is the belief of the members of the division of markets, however, that this working plan, when properly under way, will be productive of some real and substantial good.

Night Watchman: "Young man are you going to kiss that girl?"

He (straightening up): "No, sir."

Night Watchman: "Here, then; hold my lantern."

GYPSUM

Without parallel as a Soil Corrective at a cost of from 17/6 per ton in bulk in truckloads, freight paid

Splendid results obtained by its use in citrus and other orchards

Also Lucerne Plots

Write for descriptive pamphlet

ARTHUR H. HASELL

17 Queen Street, Melbourne
31 Hunter Street, Sydney
Lipson Street, Port Adelaide

AVERAGE LIFE OF FORD CAR LONGER THAN ALL OTHERS.

Detailed results of a study of the life history of motor-cars in use have been published in a bulletin recently issued by the Bureau of Business Research of the University of Michigan. The study was conducted by C. E. Griffin, Professor of Marketing at the University. The method used was to take a sample of cars registered in 1923, compare it with a sample of cars registered in 1924, and from the comparison determine the "death rate" for cars of various ages in the period intervening.

The registration records of the State of Michigan were used for the study. In the years mentioned the Michigan authorities obtained from registrants the date of their cars' manufacture, as well as data covering the make, licence number, and name and address of owner, making possible an accurate study. The total number of cars involved in the study was 90,886.

Definite conclusions regarding the life of motor-cars in general, and of

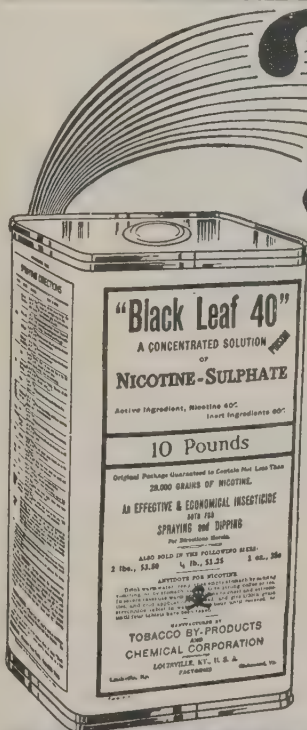
Ford cars in particular, are given in Professor Griffin's summing up of the results. Regarding cars in general, Professor Griffin says:—

"The mortality rate for motor-cars follows a curve similar in form to that for human lives and for various types of industrial goods.

"The average life of motor vehicles generally is 7.04 years. And concerning Ford cars:

"The average life of Ford cars is substantially longer than the average life of all other cars as a group."

In conclusion, Professor Griffin remarks:—"It may be surprising to some readers, in view of the fact that Ford cars are among the lowest price cars on the market, to note that the life curve for these cars shows them to have higher survivor rates than have all other cars taken as a group . . . there are some a priori grounds for expecting that result. The low cost of repairs, the relative simplicity of the mechanism . . . the large number and wide distribution of the service stations, all would tend to that conclusion."



Why be satisfied with dwarfs and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codling moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated

Louisville, Ky., U. S. A.

"Black Leaf 40"

40% Nicotine

Kills
Aphis

INTERNATIONAL HORTICULTURAL CONGRESS.

Vienna, Sept. 20-25, 1927.

It has been decided to hold the next International Horticultural Congress in September, 1927, in Vienna, under the management of the Horticultural Society of Austria.

This resolution was taken after consultation with the Governments of the States interested, as well as with the authoritative persons present at the last International Horticultural Congress held at Amsterdam in 1923; consideration was also taken of the fact that the jubilee festivals in connection with the centenary of the Austrian Horticultural Society will be held in Vienna this year. These celebrations will be terminated by the International Horticultural Congress from September 20 to 25, 1927.

NITRATE OF SODA FOR FRUIT PRODUCTION.

Summarising 15 years' records taken on Jonathan trees comprising portions of an experimental Apple orchard planted at the Delaware Experiment Station in 1908, the authors report that a direct correlation exists in most instances between trunk circumstances and yields. Fertilisers showed no consistent effect on the time of blossoming of the plots. Nitrogen increased the quantity of blooms that set, but no fertiliser showed any effect upon the commencement of fruiting. Plots receiving nitrogen either alone or in combination with phosphatic acid or muriate of potash bore the largest and most regular crops. In respect to yield, acid phosphate or muriate of potash, alone or in combination gave no benefit. Nitrate of soda, applied alone

or in combination with phosphorus or potassium, always increased yields, but when combined with either phosphorus or potassium was more effective than when used alone. Of the various fertiliser combinations, that of nitrogen and phosphorus showed the greatest gain over the corresponding control plots.—Extract from "The Experiment Station Record," U.S. Department of Agriculture.

LONDON UNIVERSITY CENTENARY CELEBRATIONS.

Australia, with a contingent of 24, is well represented amongst the 40 other countries sending students to University College, London, now about to celebrate its centenary.

University College was the first institution of its kind in the world to offer education without distinction of class, race, creed or sex, principles which have been followed by all the newer University institutions of Great Britain and the British Empire. It was founded in 1827 by Henry Brougham, Thomas Campbell, the poet, and Jeremy Bentham, the utilitarian philosopher.

APPRECIATION FROM SOUTH AFRICA.

Every number of "The Fruit World" is read by me with pleasure and interest, and I gratefully acknowledge having derived considerable benefit from the many informative articles dealing with all phases of fruit-growing and marketing problems, which are a feature of your journal.

With my sincere good wishes for the increased prosperity of the Australian fruit industry, and an enlarged sphere of usefulness for "The Fruit World."—A. E. Dix, "Roselands Orchards," Winterton, Natal, South Africa.

McTavish: "I've found the cure for insomnia."

McDougal: "Is that a fac'?"

McTavish: "Ay, I ha'e a bottle an' a glass at my bedside. If the first glass disna' work I tak' anither, an' a third after that—then I dinna care if I sleep or no'."



You can see the difference

not only in yield of farm, orchard and garden crops, but in actual L. S. D. can you see the difference when you use

SULPHATE OF AMMONIA

Sulphate of Ammonia is nitrogen in its cheapest and best fertiliser form. Ask any progressive market gardener or orchardist.

Yields are higher, quality is better, and the net result to the user is much greater per acre than in the old days before he ever saw that his crops needed soluble nitrogen. Undoubtedly nitrogen pays. And the most economical source of the supply of nitrogen is

SULPHATE OF AMMONIA

Write to-day for Literature

THE METROPOLITAN GAS COMPANY
196 Flinders Street, Melbourne

- LEMONS -

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vic.

CITRUS FUMIGATION.

Fumigation has now become the recognised method for controlling pests of Citrus trees. In Victoria fumigation is compulsory, and in other States the method has been very generally adopted by progressive growers.

There are a number of methods of fumigation. One of the most up-to-date and satisfactory is "Cyanogas," a fumigating dust which acts with deadly effect on scale and other insect pests. Last year, in Australia, over 250,000 Citrus trees were fumigated with Cyanogas; on the Kurrajong alone over 40,000 were treated. Most satisfactory reports have been received from every district.

It is claimed that Cyanogas fumigation does away with the necessity for spraying; means clean trees and fruit for a long period without further attention, provided there is no re-infestation from outside; with ordinary care, it does not harm trees or operator; it can be done in daytime; the cost is low; the gas generates slowly and destroys every breathing insect, evaporating quickly when the tent is removed, with no harmful residue; it is simply applied, and saves time and labor as compared with other methods.

Interesting booklets telling all about Cyanogas fumigation, methods of application, dosage, etc., may be had on application to the distributors in the various States.

PATENTS GEORGE A. UREN

PATENT ATTORNEY
"HENTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

MANCHESTER AS A MARKET
AND DISTRIBUTING CENTRE.

There is a population of 10 millions within 50 miles radius of Manchester—all potential consumers of Australian primary produce—and yet the greater proportion of such of it as is used there is still shipped to London or other unnecessarily distant ports.

A glance at the map shows that the most important manufacturing towns in the area mentioned are North, South or East of Manchester, and

consequently the greatest density of population is nearer to the latter port than to any other.

In the aggregate, an enormous sum might be saved annually if all primary produce, etc., required in the area was shipped direct to Manchester, and the shipment outwards of manufactured goods also ordered from that port. The equipment and facilities at Manchester Docks are of the most complete and up-to-date kind, and the railway and other connections and magnitude of the local markets make it one of the best and most economical distributing centres in the world.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1885

Special
Catalogues
showing
prices
issued
after
each sale



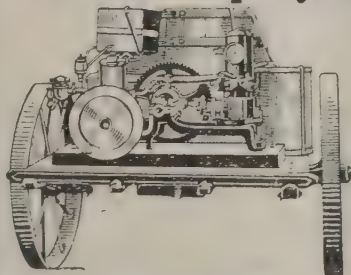
Tel.-Addr.:
„Timmkorn
Hamburg“

Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired.
BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Effective Spraying means Better Crops and Bigger Profits



Made in Single and Double Plunges
3 and 4 horse power

You can have the same results as thousands of other growers by using

The BAVE-U (Pioneer Australian) POWER SPRAYER

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles

Declared by a number of users to be worth its weight in gold

Write for Catalogue to the Makers:—

RUSSELL & CO.
ENGINEERS

BOX HILL, MELBOURNE
VICTORIA

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett St.
Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney

Fruit Growers & Shippers!

Compare the Prices at MANCHESTER (Christmas Sales)

With those realised at other British Ports

The figures are from "The Agricultural Market Report" (24th December, 1926), an Official publication issued weekly by the British Ministry of Agriculture and Fisheries, to indicate average prices realised for produce sold at various markets during the preceding week.

Average prices for FRUIT sold at the following markets during the week ended 22nd December:

DESCRIPTION.	APPLES.									
	Bristol.		Hull.		Liverpool.		London.		Manchester.	
	1st quality	2nd quality	1st quality	2nd quality	1st quality	2nd quality	1st quality	2nd quality	1st quality	2nd quality
CALIFORNIAN.	case.		case.		case.		case.		case.	
Newtown	11.6	9.6	10.0	9.0	9.0	8.6	10.0	8.0	11.0	10.0
Red	12.0	10.0	11.0	9.6	10.6	8.6	11.0	9.0	12.0	11.0
OREGON.										
Newtown	15.0	13.0	13.6	11.0	14.0	11.0	14.0	10.0	17.0	14.0
Red	12.0	9.0	12.0	10.6	10.6	9.6	12.0	9.0	13.0	11.6
OTHER AMERICAN	barrel		barrel		barrel		barrel		barrel	
Baldwin	27.0	23.0	21.0	16.0	22.0	16.0	22.0	20.0	28.0	25.0
Greening	28.0	24.0	27.0	24.0	24.0	22.0	28.0	26.0	32.0	25.0
York Imperial . .	26.0	22.6	23.0	18.0	21.0	16.6	24.0	20.0	30.0	25.0
NOVA SCOTIA.										
Baldwin	24.0	18.6	20.0	15.0	18.0	16.0	21.0	16.0	25.0	22.0
OTHER CANADIAN.										
Baldwin	28.0	24.0	—	—	23.0	20.0	—	—	30.0	25.0
Greening	32.6	25.0	—	—	26.0	23.0	—	—	32.0	25.0

NOTE.—Approximate weights: Cases Apples, 40 lbs. Barrels, Apples, 126-144 lbs.

The Port of Manchester

Was Third amongst the Principal British Ports in 1925, according to official figures issued by the Board of Trade,—the value of cargoes handled being £115,647,548.

The Manchester Ship Canal and Docks

are 28 feet deep, the latter situated 40 miles inland; they are equipped with modern appliances for the most economical handling and distribution of every variety of produce—all berths being in direct communication with main line railways.

Returns for 1925 showed that the Banker's Clearings at MANCHESTER were £814,237,000—exceeding those of Hull, Bristol, Newcastle-on-Tyne, Birmingham and Liverpool combined—a sure indication of commercial and industrial activity, and proof that

MANCHESTER

Is Unexcelled as a Market and Distributing Centre.

If difficulty is experienced in securing Manchester direct tonnage, report immediately to—

Capt. W. J. WADE

Representative of the Manchester Ship Canal Co.

8 Bridge Street, SYDNEY

Cables and Telegrams:—"Portoman," Sydney.

'Phone: B 5818.

CITRUS GROWERS

Some Interesting Facts To Ponder Over

THE excellent results of fumigation of Citrus Trees with Cyanogas, not only as regards the destruction of insect pests, but also in reference to the quality of the fruit, has convinced all the State Governments that it is possible for growers to produce good clean fruit.

In Victoria, South Australia and New Zealand, the importation from other States of Scale Marked Fruit is now prohibited

And it is a known fact that no exporter will buy a washed Orange.

Fumigation with Cyanogas costs very little, and involves very little physical effort: It is a day-time job. It can be carried out as easily and safely in bright sunlight, at any temperature, as at night, so long as the relative humidity does not exceed 70 per cent.

Why take the risk of finding your fruit banned by dealers, when you can ensure a good crop of best quality fruit. Fumigate at once. The **Cyanogas Blower** costs only 14/6, the "**Dust**" costs 32/6 for 25 lb. tins, or 115/- for 100 lbs.—and full, clear, easily-followed instruction sheets are available free. Two men with a dozen tents can fumigate 1,000 trees in a week.

Get at the facts

Send for free illustrated descriptive book on Cyanogassing Citrus Trees. Any of the following will send you a copy:—

New South Wales—
Buzacott & Co. Ltd.,
Sydney.

Victoria—
A. Victor Leggo &
Co., Melbourne.

**South Australia—
S.A. Farmers' Co-op.
Union Ltd., Adelaide.**

Queensland—
Buzacott's (Q'land.)
Ltd., Brisbane.

**West Australia—
Harris Scarfe &
Sandovers Ltd., Perth.**

Tasmania—
Davidson & French,
Launceston; Roberts
& Co. Ltd., Hobart.

McPherson's
Proprietary Limited

(Established 1860)

for

HIGH-GRADE : Seccateurs

GENUINE "REISER" SECCATEURS.

One of the best brands made, finest steel throughout, and will wear a lifetime with ordinary care. 9-inch, 16/6 pair.

"WISS" SOLID STEEL SECCATEURS.

Another fine old make, solid steel, 9-inch, 12/-; 10-inch, 13/6.

"MEXEUR" SECCATEURS.

Self-Colour Handles, 9-inch, 7/9 pair.

Bone-covered Handles, 9-inch, 9/- pair.
Other makes, from 2/- pair.

Pruning Saws

DISSTON'S "CALIFORNIA" CURVED
BLADE PRUNING SAW.

Finest selected steel, well ground and set, 14-inch long. An ideal Saw for the busy man, 4/9 each.

"DUPLEX" PRUNING SAWS.

12-inch, 2/9; 14-inch, 3/- each.

DISSTON'S "LITTLE GIANT" PRUNING HOOK AND SAW.

A very useful tool. 11/- each.

"ORCHARD" ditto, 12/- each.

Earth Scoops

SOLID STEEL EARTH SCOOPS.

Being pressed COLD from one piece of steel, these Scoops are especially strong at the corners.

Fitted with Handles.

Capacity	Price.
3 cubic feet	65/-
5 " "	67/6
7 " "	70/-

Our New 272 Page Priced and Illustrated Catalogue will be issued shortly. Complete range of Garden and Orchard Tools, Carpenter's Tools, Pumps of all kinds, etc., etc. Have you got your name down for one?

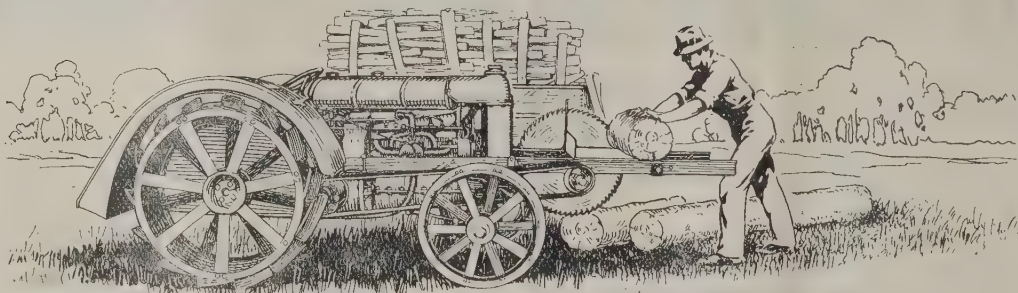
Please send me your new "Farm, Home and Workshop Catalogue" when ready.

Name

Address.....

McPherson's
Proprietary Limited

582-592
Collins St. Melbourne



At wood-sawing, the Fordson saves you endless time and trouble. No need to haul timber to the saw mill. The Fordson, with steel saw bench attached, hauls the waggon to the timber, and sawing is done where the timber lies. You can load your waggon on the spot, and the Fordson hauls your sawn timber wherever required.

There is work for the Fordson all the year round

On station, farm or orchard, the Fordson need never be idle. On every day of the year there are jobs which your Fordson will do more quickly, efficiently, and cheaply than by old-time laborious methods.

There is no limit to the usefulness of the versatile Fordson on every variety of belt work, and it is recognised as ideal for heavy haulage.

Mr. D. V. Clifton, of Barraba, N.S.W., writes to say that sawing twelve tons of wood in an eight-hour day is an easy job for his Fordson and the cost surprisingly low. Hauling five tons of wood on a trailer attachment is another regular task handled by Mr. Clifton's Fordson at a great saving of time and trouble as compared with horse-team work.

See your nearest Ford Dealer and ask him to demonstrate the Fordson Tractor and Ford Ton Truck at **your own work**. He can give you facts and figures and explain the easy terms of purchase. Ford Products pay for themselves out of profits they earn for you.

Belt-Work Uses of the Fordson.

Bore Sinking; Churning; Chaff Cutting; Concrete Mixing; Cream Separator Operation; Dam Sinking; Pumping; Feed Cutting; Feed Grinding; Grist Mill Operation; Hay Baling; Hoisting; Freezing Plant Operation; Irrigation Pump Operation; Lighting Plant Operation; Milking Machine Operation; Pile Driving; Printing Press Power Plant; Rock Crushing; Rock Drilling; Sheep Shearing Equipment; Silo Filling; Spraying; Threshing; Tree Grubbing; Well Drilling; Wood Sawing.

Fordson

The Universal Tractor

£180

Complete with Fenders and pulley. F.O.B. Ford Works in this State.

Ford

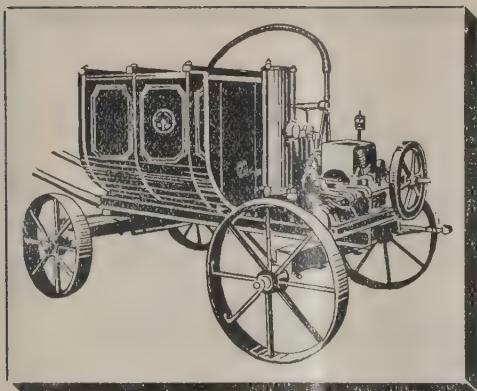
One-Ton Truck

£160

Complete with Standard body. F.O.B. Ford Works in this State.

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

Branches in all States



Sense and Spraying

Spraying sense is a big factor if you are to secure the best results—there is no time or place for hazardous methods.

The Right Spray . .
A Reputable Sprayer
The Real Way . .

are all important, and all are within your easy reach when you follow the McDonald method.

Let us send you full information, advice and particulars as to the right time and way. An Expert Service is available to you.

The Famous 604 Motor Sprayer

The Most Reliable and Efficient on the market. The only Pump with outside valves. Pressure Regulator relieves engine of all strain. Porcelain-lined cylinder; standardised parts. Write for Special Catalogue.

A. H. McDONALD & CO. PTY. LTD.

Showrooms and Works: 570-4 Bridge Road, RICHMOND

12 Minutes from City — Take Flinders Street Tram

S.A. Address: 134 Waymouth Street, ADELAIDE

N.S.W. Address: 25 Clarence St., SYDNEY

W.McF

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

*Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented.)*

Atomol Dusts Ltd.

Manufacturers of
DUSTING MATERIAL USED AS INSECTICIDES & FUNGICIDES
ON PLANT LIFE.

DUMPHRIES PLACE
OFF GILLES STREET
ADELAIDE

Growers to-day more than ever realize their success is largely measured by their ability to control the multifarious insect and fungi pests common to plant life, and advantage must be taken of the most up-to-date discoveries resulting from scientific research. Whilst very little change has taken place within recent times with regard to the materials used, the method of application is rapidly altering. We are convinced dusting will supersede spraying. This is not merely a theoretical calculation, but is based on the practical experience of growers who have had the opportunity of using the correct dusts and dusting mechanical appliances. Atomol Dusts Ltd. is an embodiment of a movement for the practical application of scientific discoveries in the realm of plant life to every day use. It has the goods that bring results.

SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED
INTERSTATE AGENTS.

VICTORIA:—

Irymple Packing Co.,
Irymple.

Irymple Packing Co.,
Merbein.

Sarnia Packing Co.,
Mildura.

Red Sun Packing Co.,
Red Cliffs.

Mr. G. W. Hall,
Box 1, Bunyip.

QUEENSLAND:—

Orchard Supply Agency,
Maryland Street,
Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington Street,
Perth.

TASMANIA:—

Charles Davis Ltd.,
60 Elizabeth Street,
Hobart.



Potash—and—Prosper!

(But would you
not prefer to use
**FRENCH
POTASH?**



If so,
demand
“Stork” Brand)

Many Australian and New Zealand Fruitgrowers are making their trees pay even to-day, simply because they use Potash.

But it must be applied in sufficient quantity.

If a complete mixture is offered—be sure it contains enough Potash to give the trees a real Potash dressing—say from $1\frac{1}{2}$ to 2lb. each.

You can sprinkle Potash lightly over a great surface and because it is too lightly applied—waste your money.

French Sulphate and Muriate
 . . are both available . .

But Muriate is the cheaper and equally valuable salt.

PROVE IT BY TRIAL!

For Particulars and Prices, Retail and Indent
 Apply

Dalgety & Company Limited
 Bourke Street, Melbourne

Only One Sprayer Has ALL of These Advantages :---

Powerful Pump and Engine

Semi-circular Vat, built round axle and thus balanced perfectly

Broad High Wheels (42 inches x 6 inches)—easily drawn over soft ground

Patented Relief Valve—adjustable to any pressure and released instantly

AND THAT ONE IS

Cooper

"PERFECT BALANCE"

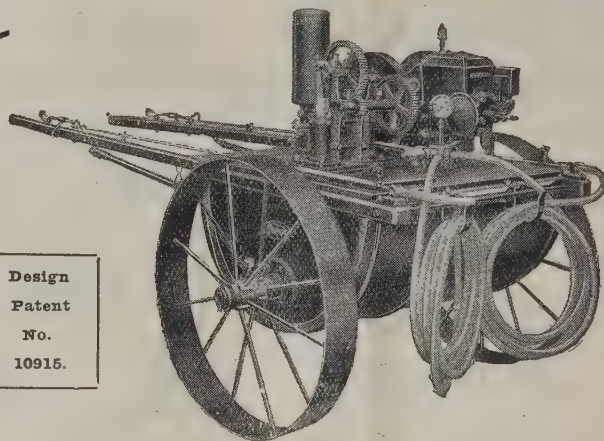
The Best Sprayer Made

Design

Patent

No.

10915.



WRITE NOW



Cooper Engineering Co. Ltd.

350-358 SPENCER ST., MELBOURNE

129-131 SUSSEX STREET, SYDNEY

Australasian Implement & House Furnishing Co., ADELAIDE

Northern Motors Pty. Ltd., LAUNCESTON

Roberts & Co. Pty. Ltd., HOBART

Any of the undermentioned will gladly furnish particulars, price, terms, etc.

GENUINE KUNDE

Budding & Grafting Knives

also Pruning Secateurs

NOW AVAILABLE

Prices on application to

L. P. ROSEN & SON

NURSERYMEN

EPPING - - N. S. Wales

TO CONQUER PLANT PESTS

The Most Comprehensive

FRUITGROWERS' AND GARDENERS' CHART

Issued in the Southern Hemisphere.

56 Colored Illustrations of Insect Pests and Fungus Diseases in all stages with description and treatment.

Also formulae for Burgundy and Bordeaux Mixtures, Lime Sulphur, Nicotine, Red Oil etc. and other useful information

Colored Illustrations of Insect Eating Birds

PRICE, 21/- Post Free.

FRUIT WORLD Pty. Ltd., Bank House, Bank Place, Melb.

This most Valuable Chart contains

Full details for the control of all Insect Pests and Fungus Diseases and Plants or Trees attacked.

Send your order now to the

Effective Spraying means Better Crops and Bigger Profits

You can have the same results as thousands of other growers by using

The BAVE-U (Pioneer Australian) POWER SPRAYER

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles

Declared by a number of users to be worth its weight in gold

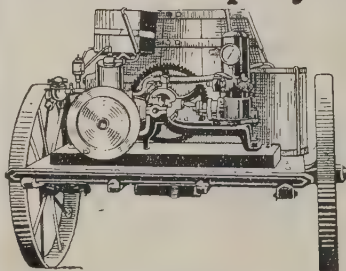
Write for Catalogue to the Makers:—

RUSSELL & CO.

ENGINEERS

BOX HILL, MELBOURNE
VICTORIA

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett St.
Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney



Made in Single and Double Plunges
3 and 4 horse power

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

THE "Garden Lover"

The Brightest
Horticultural Monthly

ANNUAL SUBSCRIPTION.

Commonwealth	6/-	Posted
British Poss.	8/-	"
Foreign	8/6	"

ORDER YOUR COPIES NOW

THE "GARDEN LOVER"

Bank House, Bank Place, Melbourne

GRUBBING



Thousands
in Use

It earns its
Famous
LOW PRICE
in a Few Days

Write for
Catalogue

WITH A "DIGGER" WINCH

A Man can uproot more Trees and Stumps in
a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

Latham Dehydrators

"STAND ALONE"

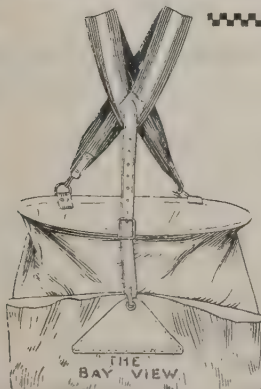
The "Rolls Royce" of the Artificial Drying
World.

Particulars, Prices, and list of present
users on application

D. J. LATHAM

157 Queen Street,

Melbourne, Australia



"Bay View" Fruit Picking Bag

CAN BE USED FOR ANY CLASS OF FRUIT

Allows use of Both Hands in Picking

No Bruising of Fruit

Weight Carried on Shoulders instead of
Back of Neck

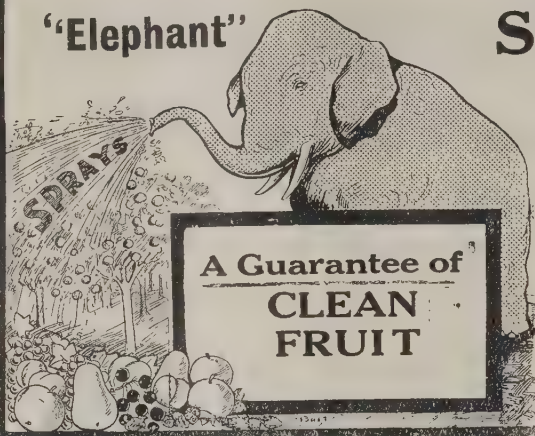
Mr. J. LANG, President of the Australian Conference of
Fruitgrowers, writes:—"After two season's use I am well
pleased with the Bags: fruit receives minimum of handling,
and is less liable to damage. They are also a great time saver."

PRICE, 12/6 EACH

Postage in Victoria, One bag, 1/3. Two bags, 2/-
Postage, Interstate, One bag, 2/2. Two bags, 3/8

F. R. MELLOR, 440 Elizabeth St., MELB.

'Elephant'



STILL ON TOP!!

ORCHARDISTS

should use only the best Fruit Sprays,
therefore ask for and see that you

— GET —

“Elephant” Brand

NOW IS THE TIME TO USE:—

Prepared Red Oil

AND ORDER

ARSENATE OF LEAD (PASTE & POWDER)

To obtain the best results it is necessary to spray thoroughly and frequently with Arsenate of Lead. This takes up considerable time, and is costly. It is therefore all the more necessary to use the Best Brand obtainable. To be sure of this, see that you use “ELEPHANT” BRAND, which has been proved to be not only the most reliable on the Australian market for many years, but the Highest Grade of Arsenate of Lead still obtainable.

Since the Wonderfully fine “ELEPHANT” BRAND ARSENATE OF LEAD came on the market years ago, numerous tests carried out by the various Government Agricultural Departments invariably show that this Brand stands alone. No other brand has shown consistently the very high qualities of “ELEPHANT” Brand. The figures published below speak for themselves,

And are THE ONLY RESULTS PUBLISHED IN THE SOUTH AUSTRALIAN JOURNAL FOR AGRICULTURE DURING THE PAST FOUR YEARS.

In 1921 “ELEPHANT” BRAND ARSENATE OF LEAD had the wonderful suspension of 89.35% (Jan. Journal), whilst in 1922 the Percentage was 52.4% (Mar., 1923, Journal), and in 1923 the percentage was 82.2%. (This was the last published in Dec. Journal). In each case “ELEPHANT” came out easily on top. Therefore we have not yet been beaten for suspension, and it should also be noted that the percentage of killing property in our Arsenate of Lead is particularly high.

Also buy—E.B. Lime Sulphur, Atomic Sulphur Spreader, Bordeaux Powder, Weed Killer And Sulphur, Black Leaf 40, Bluestone, Etc.

Write for a copy of the marvellous Government tests

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

Agents: Seedsman, &c.

INTERSTATE AGENTS:

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR JUNE

Illustrations.

Yates Apple Tree Grown by Mr. T. H. Grant, Beaconsfield	231
Horticulture in Fiji	238

Contents.

Australian Apple Exports..	221
Australasian Apple Crops..	221
Answers to Correspondents	232
Canned Fruits Industry: Enquiry to be held	252
Citrus Marketing	251
Dried Fruits: London Sales; N.S.W. Act; Dr. Myers' Investigations	239
Fruit Export Bill Opposed in Tasmania	221
Fruitgrowing in California	256-7
Fruitgrowing in the Pacific: Fiji, Samoa, and Hawaii	238
Interstate Citrus Conference	242-244
Kerb Markets and Distribution of Fruit	240
Market Reports: British and Australasian	248-249
New South Wales: Fruit Crops	247 & 252
Viticulture	251
New Zealand: Forthcoming Fruitgrowers' Conference; Apple Exports	225
Orchard Pests: Fighting ..	xvii
Poultry Notes: The Economic Aspect of Ducks in Fruitgrowing	255
Pruning for Fruit Production	230-231
Personal	222
Queensland Notes	250
South Australia: Fruit Exports	233
S.A. Apple Production ..	225
Softwood Timbers: Pinus Insignis for Case Making	235
The Maintenance of Humus in Orchard Soils	223-224
The Scientific Outlook on Some Orchard Problems..	234-235
Tasmania: The Season's Exports; Fruit Shows; Orchard Work for June..	236-237
Victorian Fruitgrowers' Convention	226-229
Victoria: Export of Grapes; Fruit Crop Report; General News	246-247
Western Australia: Seasonal Work; Fresh Fruit Exports; Crop Report	241

AUSTRALIAN APPLE EXPORTS.

1½ Million Bushels Shipped.

Satisfactory Prices.

According to a statement issued by the Minister for Markets and Migration (Mr. Paterson) on May 28, the prices obtained for Apples exported from Australia this year are, generally speaking, very satisfactory. Mr. Paterson said that reports received from official and other sources indicated that on the whole the Apples from the Commonwealth were arriving at oversea destinations in good condition, and were well packed and graded.

Exports of Apples from Australia this year, up to May 14, amount to 1,529,346 bushel cases. Of these 1,242,422 cases were sent to the United Kingdom, 219,304 to Germany, 29,570 to Sweden, 29,383 to the East, 4,516 to Denmark, 287 to Belgium, and 3,884 to other ports. Of the total exports, 1,051,878 were sent from Tasmania, 465,933 from Western Australia, 8,327 from Victoria, and 3,208 from South Australia.

FRUIT EXPORT BILL.

Strong Opposition in Tasmania.

A meeting of delegates of the Cygnet, Huonville, Channel, Geeveston, and Franklin branches of the Tasmanian Fruitgrowers' Protective Union was held at Huonville on May 28, when a discussion took place on the Federal Fresh Fruits Export Bill. All the speakers were hostile to the measure.

It was stated that, although Tasmania exported more fruit overseas than all the other States together, its representation on the Board was limited to two members out of seven, and that the Chairman, who in all probability would be a Government nominee, had a deliberative as well as a casting vote. Although New South Wales and Queensland did not export fruit overseas they were given representation on the Board.

Other objections to the Bill were the possibility of the Board restricting the quantity and variety of Apples to be exported from Tasmania, and the elimination of f.o.b. sales. This possibility was described as a breach of faith on the part of the responsible Minister, as it had been promised that such trading would not be interfered with. The following motion was agreed to:—

"That this Conference of representatives of the Tasmanian Fruitgrowers' Protective Union is opposed to the Fresh Fruits Export Bill, and will do all in its power to obtain a negative vote when

the measure is submitted to the fruitgrowers of Tasmania."

AUSTRALASIAN APPLE CROPS.

The approximate production and export of Apples from Australia and New Zealand for the present season is estimated as follows:—

Tasmania.—Yield, 2,600,000 bushels; export, 1,095,000 bushels; destination, 975,000 to United Kingdom, 120,000 continental ports.

Victoria.—Yield, 750,000 bushels; export, 10,000 bushels; destination, United Kingdom.

Western Australia.—Yield, 750,000 bushels; export, 400,000 bushels; destination, 200,000 to United Kingdom, 185,000 Europe, 15,000 Near East.

South Australia.—Yield, 250,000 bushels; export, 3,000 bushels.

New South Wales.—Very light; few small consignments.

New Zealand.—Yield, not available; export, 550,000 bushels; destination, United Kingdom and South America.

A New Company.

By advertisement on the usual page (iii.), Mr. H. Blyth notifies the sale of his chemical business to a public company.

Mr. Blyth feels that there are opportunities for expansion, and that a company can possibly do more work than an individual.

The authorised capital is £40,000, divided into 40,000 shares of £1 each.

20,000 cumulative 10 per cent. preference participating shares of £1 each have been offered to the public and over subscribed; 8,500 deferred shares fully paid up have been allotted to Mr. Blyth in part consideration for purchase money; 11,500 shares are held in reserve.

The company intends to carry on the business as formerly and maintain the high standard of Blue Bell materials which are well and favorably known.

The directors of the company at present are Messrs. A. C. Morley (Chairman), H. Blyth, H. Prell, N. S. McNab, and A. J. Pearson, the Secretary being Mr. A. MacLachlan; Mr. A. G. Gunner is Manager.

It is some 18 years since Mr. Blyth commenced manufacturing arsenate of lead, beginning in a very simple and small way. He has been able, by hard work and straight dealings, to build up the largest business of its kind in the Commonwealth, and one which holds the record for the greatest sale of any one particular brand of arsenate of lead in the Commonwealth.

Remember !

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the BEST, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place off 410 Collins Street, Melbourne.

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart.
Western Australia: D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane.
New Zealand: Gordon & Gotch Ltd., Wellington.
Dunedin and Auckland. **Great Britain:** Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

PERSONAL.

The Hon. H. H. Smith, M.L.C., has received a letter from the Victorian Agent-General (Sir George Fairbairn), stating that Mr. Fred. White, Trade Commissioner for Victoria in England, is due in Melbourne on June 4.

Mr. White has some interesting information for fruitgrowers, particularly in regard to a special treatment for Oranges, which enables them to be carried as general cargo. He also has information regarding a pump for raising water automatically without power. This is used in Egypt, and should be valuable for settlers along the River Murray.

Dr. S. S. Cameron, Director of Agriculture in Victoria, is leaving shortly to attend the Imperial Conference on the co-ordination of Agricultural Research, to be held in London in October next.

Mr. G. A. Julius, Chairman of the Council for Scientific and Industrial Research, who is also attending the conference, has already sailed for the Old Country.

Mr. Turner, President of the South Australian Fruitgrowers' Association, visited Victoria early in May, and enquired into various aspects of the fruitgrowing industry.

The Maintenance of Humus in Orchard Soils.

Valuable Discussion at Fruit-growers Conference.

ONE OF THE MOST IMPORTANT problems the orchardist has to face is maintaining the fertility of his soil. Speaking on this subject at the Upper Beaconsfield Conference of Victorian Fruitgrowers, Mr. F. Thomas, M.A., of Bunyip, said that soils were due to the weathering of rocks, and the gradual accumulation of decaying organic matter or humus.

Humus was the life of the soil. It absorbed heat, stored moisture, and improved the texture of the soil. It also supplied the essential plant food, potash, phosphorus and nitrogen, and was both a home and a food for the bacteria which played such a large part in maintaining fertility.

By ordinary orchard practices, especially continued clean cultivation, the original humus in the soil was gradually destroyed. In order to secure good results from the orchard, this humus must be replaced. Usually this was done by adding straw or strawy manures; but it had been found that this resulted in a decrease of the available nitrogen in the soil, while much of the straw decomposed very slowly.

Quoting from the results of American experiments, Mr. Thomas stated that scientists had found that in virgin soils the amounts of carbon and nitrogen contained therein bore a fairly constant ratio to one another—about 1 lb. of nitrogen to 12 lbs. of carbon. Both these substances were contained in decaying organic matter, and the experiments suggested that we could not add nitrogen to the soil in the form of humus without at the same time adding carbon.

The decomposition of organic matter added to the soil was brought about by the bacteria which lived on it. Their bodies, like ours, consisted mainly of carbon, hydrogen, oxygen, and nitrogen. They could not live on carbon alone, any more than we could, but must have a balanced ration, of which nitrogen was an essential part. If the nitrogen in the soil were deficient, the bacteria competed with the plants for the available nitrogen, robbing them of this food. To enable the bacteria to work and multiply, we must feed them with the necessary nitrogen. Their work in aiding decomposition then added to the fertility of the soil.

In straw there was one part of nitrogen to 80 parts of carbon. In the bodies of the bacteria there was one part of nitrogen to 10 parts of carbon. It would be seen that straw

therefore did not maintain the required balance in the soil. To quickly obtain new supplies of humus we must plough in legumes, such as Peas, Beans, and Clovers, which decomposed much more rapidly than the strawy residues, and which contained one part of nitrogen to 20 of carbon, thus more nearly approximating the needs of the bacteria. Another method was to add to our strawy manures artificial fertilisers like nitrate of soda or sulphate of ammonia.

The experiments suggested that the use of strawy manures alone did not add to the fertility of the soil, but in fact, actually detracted from the available nitrogen content, at least for a time.

The Orchard a Factory.

Speaking from practical experience, the Chairman (Mr. J. H. Lang), said we might look on our orchard as a factory. The trees were our employees, and the soil was a storehouse from which they drew the goods they used. No one could draw indefinitely upon a storehouse unless the supplies were replenished. The trees were drawing their supplies from the soil, and these supplies had to be made up from time to time.

We must have the best conditions in the soil that the trees might live to the best advantage. The soil could be looked upon from three aspects, in regard to its physical, chemical, and biological contents. The physical condition dealt with the size of the particles of the soil from sand down to fine clay. This had a great influence on the water content of the soil. The plant could only take up its plant food when it was water-soluble.

The chemical manures which we applied were more a physic than an actual plant food, although they had a beneficial effect, as they were a food to the bacteria in the soil, which reacted upon the trees themselves.

In regard to soil management in the speaker's district (Harcourt), being an irrigation district, there was plenty of soil moisture; they could apply water whenever it was necessary. There was no competition as regards water between the trees and any other crop that might be growing. The practice was for clean cultivation in the earlier part of the spring and summer. After that, when irrigation was started, the more weeds they could grow the better they liked it, as they were building up the humus for the following year. They found that the application of superphosphate encouraged the growth of tre-

foil, a leguminous plant which added to the nitrogen in the soil.

It had been said that our soils were deficient in phosphates, the reason given being that in past ages there had been a lack of large animals roaming over Australia. It was the decomposition of such animals which gradually built up that ingredient in the soil. It had been noticed that although our soils compared very favorably in their contents with those of other countries, we did not get the same favorable results from the application of nitrogenous manures. The reason given was that on account of our climate, the heat of the summer was very beneficial to the growth of the bacteria. It had been noticed in the Wimmera particularly, that after a hot summer, there would be a better crop of Wheat than after a cool summer.

In regard to straw being ploughed in for manure, it was found in the Wheat-growing areas, that when the straw was burned off, a better crop resulted than if it were merely ploughed in. Was this due to the plant food being made more readily available through the burning? It was found that if the straw were carried away and burned apart from the field, and then the ashes distributed, the result was not so good as if the straw were actually burned there. It was suggested that the heat sterilised the soil, and made conditions more favorable to bacterial action.

The Need for Nitrogen.

The management of the soil was one of the fundamentals of our industry, and it was the first time it had been discussed at a Conference. Another fundamental to the feeding of the plant was the need for carbon and nitrogen in the soil. Carbon could be accumulated in the tree or plant itself, although the tree had not the power to store the nitrogen. Professor Wadham, in his address, had pointed out that at the time of blossoming there was greater need for nitrogenous food for the plant than at any other time, and at that time there should be more nitrogenous manure available for the plant.

It was noticed that some varieties of Apples in particular, bore good crops only every second year. If we could get over that difficulty and get regular annual crops from our fruit trees, it would double our income without doubling our acreage or expenses. The speaker believed that it was possible to do this, although it would need a great deal of scientific investigation.

In America they were working upon the principle of having the nitrogen available for the tree at the time it

needed it most. The speaker was experimenting on these lines himself at present, putting nitrogen on the soil so that it would percolate down to the roots at the time of the blossoming, in the hope that there would be sufficient nitrogenous food available for the tree, not only to set and mature this season's crop, but to form fruit blossoms for the following year.

By thorough cultivation we could conserve a sufficiency of moisture, but we must remember that in order to do so effectively, the work must be done thoroughly. The theory of conserving the soil moisture was to do away with the capillary action, i.e., the water rising up through the grooves between the particles of the soil. But a shower of rain on the top would compact the surface soil and make capillarity more effective. In this way, not only did we lose the moisture which had fallen upon the soil, but the moisture which was stored in the lower portions of the soil came up, and the percentage of moisture even in the subsoil was decreased. The conservation of moisture, particularly in the fruitgrowing areas in the southern districts, was vitally important. To keep the surface mulch in good order was essential.

Soil Bacteria.

Commenting on the references to soil bacteria, Professor Wadham, of Melbourne University School of Agriculture, said that bacteria were extraordinarily small plants, of which there were millions of different kinds. The whole world depended upon them; there was nothing we used that was not in some way dependent upon them.

There were many different kinds of bacteria which lived in the soil, existing in very great numbers. To understand the effective life of bacteria depended on remembering that they were plants; therefore they must have the same classes of substances for their nutrition that ordinary plants had. They required warmth and moisture. The straw would not rot on the surface of the orchards, because it did not get the necessary amount of moisture.

The real facts about the soil bacteria had been established in Europe; the best work had been carried out at Rothamsted, in England. The bacteria of the soil were legion, not only in numbers, but in their types, and they were very different in their reactions towards the things with which they dealt. One lot would live in decomposing animal residues, taking the nitrogen therefrom. Manure decomposed so readily, because it was moist and had the necessary warmth.

Nitrogen-forming Bacteria.

The bacteria must have some supply of nitrogen. The type which we wanted to encourage most was the type that took the nitrogen from the air. The air consisted of four-fifths of nitrogen, but it was in a form which the ordinary plant could not use. If we wanted to decompose waste plant material, it had to be moist, fairly well aerated, and kept at a warm temperature, and naturally the compost heap was the place where these conditions were most easily obtained. The bacteria forming on that plant residue actually took nitrogen from the air and made it available. There was no source of nitrogen so cheap as that from the air.

It had been thought that if plant residue, such as straw, were added to the soil, bacteria would flourish and fix the nitrogen in the soil. An interesting experiment in this connection was conducted at Rothamsted. They manured a plot with sugar, which was supposed to increase the bacterial action; but it was found that the supply of nitrogen in the soil went down. Although the sugar caused the bacteria to increase, they had to have nitrogen, and took it from what was already in the soil, building it up into their own bodies.

The nitrogen in the bodies of the bacteria was not available to plants. As long as the bacteria were alive, they used the nitrogen which they had manufactured from the atmospheric nitrogen; but when they died, it became available. That was the theory of nitrogen as carried on in the rotting of plants.

Efforts had been made to put this work on a commercial basis. A small company was formed which tried to synthesize farmyard manure. They made huge compost heaps of straw, watered it, and then tried to get these bacteria to start. They actually put colonies of bacteria on the heaps and gave them a slight top-dressing of some nitrogenous material, such as nitrate of soda or sulphate of ammonia. In this way the straw was made to rot more quickly. The speaker had met farmers in the Old Country who had done this with great success. A great deal of water was needed, the material was bulky to handle, and would cause a great deal of labor for distribution in the orchard.

Leguminous plants were already rich in nitrogen. They enabled the bacteria to work more quickly, and that was why leguminous plants, such as Peas, Vetches, etc., were generally satisfactory plants to plough in.

With regard to the class of nitrogenous manure to use to stimulate

bacterial activity, there was one point of fundamental importance in soil work in a country where the temperature was usually high, and that was the question of sodium salts in the soil. Everyone knew the disastrous results of getting the soil in such a sticky condition that it would not work, and that was frequently associated with the presence of sodium salts. Therefore the use of nitrate of soda was a doubtful expedient, especially in the northern parts of the State, where it was inclined to be dry.

Comparing the tree and the Wheat plant, Professor Wadham said that all plants were continually losing large quantities of water by evaporation into the air. The amount of water so lost depended mostly on the leaf area. Nitrogenous manures tended to increase leaf areas in the plant very markedly. In the tree the leaf area was controlled by pruning. In the Wheat plant it was not, and one of the troubles of applying nitrogenous manures to Wheat was that, although the plants were large and healthy in the early stages, there was not enough water in the soil to keep them going up to harvest time, with the result that the grain was very poor and shrivelled. The top was more than the root system could support. The orchardist, however, could correct that by modifying the amount of leaf area.

The bacteria were the things that really mattered. To do their beneficial work, they must have humus, and it must be rotted humus, supplied either by a compost heap or by ploughing in leguminous crops.

In moving a vote of thanks to the speakers, Mr. F. Clayton (Kyabram) said that in the North they were trying to get the soil back as nearly as possible to its virgin condition. The most practical way up to the present seemed to be to apply heavy dressings of superphosphate, which induced a heavy growth of Trefolils. This, when ploughed in, decomposed, and increased the humus in the soil. The growing of Peas and other crops and ploughing them in had also been tried. They had also followed the example of some growers in the South in the application of straw under the trees, both for the purpose of saving a certain amount of fruit from bruising when blown down by heavy winds, and also with the idea of improving the soil conditions by the rotting of the straw the next year. There had not yet been sufficient time to judge the results. The speaker was very much impressed by the fact emphasised by Mr. Thomas—the need for providing food for the bacteria.

The speakers were warmly thanked for their addresses.

New Zealand.

Forthcoming Conference

: Apple Exports

NEW ZEALAND FRUITGROWERS' CONFERENCE.

The 12th Annual Conference of the New Zealand Fruitgrowers' Federation Ltd., will commence at Wellington on June 8th, when delegates are expected to attend from all over the Dominion.

Among the important items that will come up for discussion is a proposal to alter the constitution to include growers of small fruits, Tomatoes, and Tobacco. To place the care of these interests under the wings of the Federation is regarded as a great advance, and if carried will have a great influence on the development of the industry in the near future.

A remit from the Teviot Association asks that "in view of the widespread decline of Apple trees in bearing throughout Otago Central, the Department, in conjunction with the Nurserymen's Association, should investigate as to whether the present varieties of stocks used are suitable to the climatic conditions."

Other items proposed for Departmental action include the registration of commercial Grape and Tomato growers; an investigation into the reported benefits of electro-culture; tightening up of spray regulations, and more efficient inspection; owing to fireblight outbreak at Hawke's Bay, registration of household orchards, and assistance to eradicate hawthorn; information regarding suitable varieties of Apricots, Peaches and Prunes for drying; facilities for erecting, preserving and canning works and cool stores.

More rigid inspection of imported fruit for pests and diseases is asked for, also the limitation of imports of American Apples to one consignment in December.

Numerous resolutions will be submitted in regard to fruit cases, both for export and local markets, also that the size of Strawberry punnets be standardised, and the weight of fruit in containers fixed by legislation. It is suggested that charging for cases should be made universal.

Remits asking for the revision of the export regulations and grades will be submitted, one asking that no fruit below "Fancy" grade be allowed for export, while another urges that export of a greater proportion of the crop should be encouraged. The questions of sizes and marking, ac-

cording to size as well as labelling, will also receive consideration. It is suggested that the Control Board should reconsider the elimination from export of such varieties as London Pippin, Alfriston, and Ribston Pippin, which have done well in the past.

It is proposed to give consideration to a Dominion Pool for export fruit, another item suggesting that pooling of export fruit be continued on a purely voluntary basis, no regulation to be made having for its object the

pooling of growers who do not desire to pool.

It is proposed to ask for the encouragement of f.o.b. sales, "such sales having proved most satisfactory and advantageous to growers in all other fruit producing countries."

Requests are also made for more detailed returns in regard to shipments, and that the Control Board report on the system and cost of advertising New Zealand Apples and Pears on the Home market, with suggestions for future policy. It is proposed to ask for the continuance of the Government guarantee on export fruit, another suggestion being for exporting growers to establish a Provident and Guarantee Fund to be placed to the credit of the individual grower, and not to become a "common" fund in any way whatsoever.

Requests are also to be made for the amendment of the Control Act, the renewal of the Orchard Tax, and for alterations in the system of taxation of growers' motor trucks, etc.

It is proposed to ask the Government to bring in an Act similar to the "Horticultural Produce Act" (sales on commission), now in operation in England.

The Railways Department will be approached with regard to delivery charges, provision of suitable trucks, freight on wrapping paper and shooks, inspection of loading and unloading of fruit, etc.

It is proposed to ask for a representative conference to meet Dr. Kidd, and confer with him on the various problems of storage of fruit.

N.Z. APPLE EXPORTS.

It is estimated that exports of New Zealand Apples to the United Kingdom and South America this year will be approximately 550,000 bushels.

PRODUCTION OF APPLES IN S.A.

A 25 Per Cent. Crop.

Mr. Geo. Quinn, Horticultural Instructor, advises:—"Whilst no actual statistics are available relative to the production of Apples, I would judge that a good average Apple yield in this State would range around 1,000,000 bushels gross.

"From personal observation and reports of officers and growers, I form the opinion that the season just over did not—on a liberal estimate—yield more than 25 per cent of an average Apple crop."

"Only in the free play of individual enterprise, is progress possible."—Sir Henry Rew.

SHIP YOUR FRUIT TO GERALD Da COSTA



Head Offices—
**Floral Hall, Covent Garden,
LONDON, W.C.2**

*Importers and Distributors of
all kinds of English, Colonial
and Foreign Market Produce*

BRANCHES:

COVENT GARDEN, W.C.2.
8, Russell Street.
524, Central Avenue.
Stand, 151, English Flower Market. Stands, 31, 32, Foreign Flower Market. Apple Warehouses, Jubilee Market.
Tel.: Gerrard, 893 and 5736.
Telegrams: "Geracost, London."
Stands, Nos. 151, 152 and 153. Spitalfields Market, E.1. and 54 Brushfield Street, E.1.
Telephone: Avenue 8804.
Telegrams: "Spitacost, London."
Apple Warehouses: Church Passage, Spital Square, London, E.1.
3, 4 and 5, The Arcade, Borough Market, London, S.E.1.
Telephone: Hop, 3373.
Telegrams: "Borocost, London."
G.N.R. Potato Market, King's Cross, N.1.
Telephone: North 1482.
Telegrams: "Kincrocost, London."
13 & 17 Victoria Street, Liverpool.
Telephone: Central 888.
Telegrams: "Geracost, Liverpool."
(Facing Commercial Sale Rooms.)
Deansgate, Manchester.
Telephone: Central 7156.
Telegrams: "Geracost, Manchester."
17, Humber Street, Hull.
Telephone: Central 4041 Y.
Telegrams: "Geracost, Hull."
Southampton Docks.
(Facing No. 45 Shed.)
Telephone: Southampton 2610.
Telegrams: "Geracost, Southampton."
Eclipse Yard, Westgate, Mansfield.
Telephone: Mansfield 440.
Telegrams: "Geracost, Mansfield."

Victorian Fruitgrowers' Convention

Successful Function at Upper Beaconsfield

A Valuable Clearing House for the Exchange of Ideas and Experience

UNDER THE AUSPICES of the Victorian Fruit Council, representatives from many of the important fruitgrowing districts in Victoria assembled in conference at Upper Beaconsfield from May 10 to 12, when questions of importance to the industry were discussed. The conference was opened by Mr. A. N. Walter, M.L.A., who expressed the opinion that growers did not bring their troubles with sufficient emphasis before those in authority. Messrs. A. E. Chandler, M.L.C., and W. H. Everard, M.L.A., also spoke, referring in particular to the unsatisfactory conditions at the Victoria Market. Other visitors whose presence was appreciated by the Conference, included Col. Knox, the newly-elected Member for the district; Cr. Bevan, Professor S. M. Wadham (University Agricultural School), Mr. G. B. Minns (Superintendent of Markets), Mr. J. M. Ward (Superintendent of Horticulture), Mr. G. Levick (Science Branch, Department of Agriculture), Mr. W. Gay (Forests Commission), and Mr. Evans, representing Professor Rivett, of the Council of Scientific and Industrial Research.

The first annual report of the Victorian Fruit Council, covering the period since its formation in accordance with the decision of the Portland Convention last year, was presented by the President (Mr. J. H. Lang), who stated that affiliations had been received from the Northern Victorian Fruitgrowers' Association, Metropolitan Fruitgrowers' Association, and the Apple and Pear Growers' Association. Efforts to secure the support of the Victorian Central Citrus Association had so far been without success. Matters dealt with by the Council during the year included bringing the problems of fruitgrowers under the notice of the Council for Scientific and Industrial Research through its Chief Executive Officer (Prof. Rivett), opposing the application by sawmillers for increased duty on softwood timbers, and the initiation of a scheme of bulk loading of fruit for the Brisbane market, which, although not giving all the savings anticipated, had proved of benefit to growers. Recently the Federal Parliament had passed the "Fresh Fruits Overseas Marketing Act," to control the export of Apples and Pears, and growers would be asked to vote on this question probably in August or September next.

Fruit Cases.

The question of suitable timber for cases, and the duty on softwoods called forth considerable discussion, it being decided, on the motion of Mr. H. J. Willoughby (Tyabb), "That this Convention request the Controller of Customs to simplify the procedure by which growers obtain a rebate of duty on imported softwood cases used by them for export overseas."

On the motion of Mr. S. W. Smith (Beaconsfield Upper), it was decided to ask the Apple and Pear Growers' Association to arrange a conference of sawmillers, exporters, and growers, with a view to securing a suitable case. A further motion, asking for the removal of all duties on softwood timber for case-making was carried at the instance of Messrs. Blackburn (Merrigum), and Williamson (Portland).

The Thrip Pest.

Dealing with insect pests, Mr. Levick, of the Department of Agriculture, outlined the Department's investigations into the life history of the thrip, and the experiments that had been carried out on the berry crops at Mt. Dandenong. The investigations showed that there was hardly a single forest or garden plant that was not attacked by thrips. When thrips attacked fruit trees, usually the buds failed to open; but last year there was comparatively little of this damage. The majority of the blooms opened in a normal manner and were healthy, but the blossoms were invaded by thousands of these tiny insects, which rasped and sucked the vital organs and apparently prevented them from becoming fertilised. Where fruit formed, it was noticed that as a rule only one or perhaps two seeds were fully developed, seeming to indicate that the fruit pips were prevented from forming by the lack of fertilisation of those particular portions of the bloom.

When the Science Branch was first approached regarding the trouble, much of the damage had already been done. Different varieties varied. At Harcourt, Annie Elizabeth Apples and Howell Pears set practically normal crops, and in Mt. Waverley district many orchards carried full crops. It was not certain that it was the thrips that caused the damage to the blossoms; none of the theories advanced would fit all the known facts.

Thrips were very easy insects to kill, but owing to their immense numbers, as soon as one lot was destroyed, another took its place. The object of the experiments was to find a preparation which would not only kill the thrips but keep them off for at least three days or a week, and at the same time would not injure the blossoms. Dusting powders were remarkably effective when first applied, but the effect did not last. The oils on the whole seemed to give the best results, but repeated applications burned the foliage, particularly of Strawberries. Whale-oil emulsion was the most effective, and did not cause burning. In berry fruits it would be worth while developing resistant strains; some varieties of Raspberries were very much more liable to damage than others. In a normal year thrips were more or less beneficial in assisting the fertilisation of the blossoms.

Mr. A. F. Thiele (Doncaster) expressed the opinion that sprinkling with water was beneficial. They had had varieties set when the thrip was at its worst; but this was during a few days' damp weather.

A motion was carried expressing Conference's appreciation of the action of the Government in giving assistance to those orchardists who suffered loss through the thrip infestation.

A motion asking the Superintendent of Horticulture to instruct the District Supervisors to exercise stricter supervision over fruit trees in private gardens and neglected orchards; also that districts be made smaller to allow of more efficient supervision, was carried at the instance of Mr. Close (Pakenham), seconded by Mr. Lipscombe (Croydon), it being added at the request of the Northern Association, that Supervisors be provided with modern means of transport and telephone communication.

In reply, Mr. J. M. Ward (Superintendent of Horticulture), stated that there were 24 supervisors in Victoria to cover 85,000 to 90,000 acres of orchard. The staff had been considerably increased in the last two or three years, but lack of funds prevented the districts at present being made smaller. Victorian fruitgrowers were getting better service in this respect than any other State. In regard to transport, the Department allowed 10d. a mile for Supervisors providing their own cars, or 6d. a mile for motor-cycles. Others were allowed £40 a year for travelling within a radius of ten miles of their homes. As time went on it was hoped to add

more scientifically trained men to the staff for investigation work.

A motion was carried at the instance of Messrs. S. Browne and W. Moyle (Pakenham) asking the Department of Agriculture to supply traps for root-borer at cost price to growers requiring them.

Marketing Problems.

A motion re-affirming the decision of the Portland Convention that the opening hour of the Victoria Market should be changed from 4 a.m. to 6 a.m., was carried at the instance of Mr. Lorimer (Diamond Creek), it being suggested that a three-months' trial be asked for.

Mr. G. B. Minns, Superintendent of Markets, stated that the Market Gardeners' Union had protested strongly against the proposed alteration. The Markets Committee was in favor of opening at a later hour, as was done in other States, where the same amount of work was got through more quickly. A motion by Mr. Tully, thanking the Markets Committee for not enforcing the closing of the market at 8 a.m., and confirming the opinion that 8 o'clock was too early to remove the growers, was carried.

Mr. W. Lipscombe (Croydon), explained the provisions of the N.S.W. Farm and Produce Agents Act, which provided for the registration of agents handling fruit. It was stated that some firms avoided the provisions of the Act by styling themselves "merchants." On the motion of Mr. Tully, it was decided that the Council should watch developments, and take whatever action was thought necessary from time to time.

A paper on "Kerb Markets and Distribution," read by Mr. J. W. Aspinall (Metropolitan Association), is published elsewhere.

At the instance of the Northern Victorian Fruitgrowers, a motion was carried affirming that the present methods of wholesale fruit marketing were obsolete, and recommending to the State Cabinet and the City Council that a new wholesale market be established in the Queen Victoria Market site.

Experimental Orchards.

In moving that "This Convention press the Ministry to make available sufficient funds for the establishment of experimental orchards in different fruit areas of the State," Mr. J. B. McDonald (Shepparton) pointed out that there was serious need for more research work in every section of the industry. Separate orchards should be established to experiment with Citrus fruits, canning fruits, and pome fruits. In the canned fruit industry, it was impossible to compete with other countries unless the costs

per acre could be reduced. What was wanted was a rotation of varieties which would give a longer processing season, so that more fruit could be put up with the present plant. At the present time hundreds of thousands of pounds worth of plant was lying idle for over nine months of the year. Tests were also necessary in regard to manuring and spraying.

Referring to experiments conducted by growers themselves in their own orchards, Mr. W. Young (Ardmona) said that results were obtained which the average man could not work out. Trees should be tested by trained observers under local conditions.

Mr. Ward stated that the Department was heartily in accord with the proposal. This work should have been started 20 years ago. The State was spending millions of pounds on conservation of water, a great deal of which would be used in horticulture and vegetable production. The Department needed experimental orchards where they could conduct experiments on the right lines and keep absolute and complete records of the work done. That could not be done in privately-owned orchards. A certain amount of demonstration work could be done there, but not research work.

Professor Wadham pointed out that the University School of Agriculture was established with the idea of training men for the State Agricultural Department. Each year 20 free places were allotted to students for certain studies, of which agriculture was the chief. The Minister had the right to offer to any graduate of the School a post for two years at £300 in the Department, yet this year not more than 10 of the 20 scholarships were allotted—there were no applicants.

Growers expressed appreciation of the experiments which had been conducted by Mr. A. F. Thiele, of Doncaster, who stated in reply that he found that this work was not one man's job—it had to be carried on beyond one generation. What was wanted was a place where continuity could be maintained, and where science and practice could go hand in hand.

The motion was carried.

A further motion that the Government be asked to co-operate with growers willing to place a definite area of orchard under the control of the District Orchard Supervisors for carrying out experiments in manuring, spraying, etc., was carried at the instance of Mr. S. Brown (Pakenham), it being pointed out that there was need for manurial experiments in each actual district, and on individual orchards.

In the absence of Professor A. C. D. Rivett, Chief Executive Officer of the Council for Scientific and Industrial Research, a valuable paper dealing with the need for fully-trained men for research work, experiments with root-stocks for different varieties of fruit trees, different methods of propagation, etc., was read by Mr. Evans, who stated in reply to questions that it was hoped to publish the complete results of the experiments at a later date.

Railway Matters.

In regard to direct delivery of fruit to consumers, Mr. F. Clayton (Kyabram) stated that during the past year the suburban deliveries had been greatly improved, but where the fruit was passed on to carriers, it usually reached the consumer in very bad condition, and gave the district a bad name. It was decided to ask the Railway Department to improve its methods of delivery of fruit to consumers.

Stating that the matter had been brought before the Railways many times, Mr. F. J. Churches (Northern), asked the support of conference in urging the Railways to reduce the freight on canned and dried fruits, and produced figures to show that it cost nearly four times as much to send canned fruit into the country districts as it did to send it the same distance to Melbourne. It was in the country where fresh fruit was not always available that canned fruits were needed. If a reasonable freight reduction could be secured, and more fruit sold within Australia, growers would be on the road to doing without Government bounties.

The motion was seconded by Mr. Blackburn, and carried unanimously.

At the instance of Mr. Tully, it was decided to thank the Railway Department for their efforts to increase the sale of fruit by means of fruit drinks, etc.

Brisbane Marketing.

A letter was received from the Committee of Direction of Fruit Marketing, Brisbane, suggesting their appointment as receivers of Victorian fruit in Brisbane, in place of Mr. D. G. Wills. A letter was also received from the Brisbane Fruit Merchants' Association, stating that the Association was satisfied with Mr. Wills' arrangements and had every confidence in him.

As Mr. Wills was not present at the conference, it was suggested that consideration of the question be deferred, but it was subsequently re-opened for discussion.

Speaking on behalf of the Northern Fruitgrowers, for whom Mr. Wills

was the Sydney representative, Mr. Blackburn said that by the introduction of Mr. Wills' scheme, growers had been saved 7d. a case on fruit sent to Sydney, and in the last two seasons, 9d. case. He questioned, however, whether Mr. Wills' expenses were proportionate to his profits.

Mr. Churches spoke in support of Mr. Wills' Sydney organisation, which he described as the most complete and efficient he had seen. The time might be ripe to ask for service at a reduced rate. Growers were not yet ready to finance themselves in this way, and the C.O.D. had not given entire satisfaction to Queensland growers. After discussion, it was moved by Mr. McDonald, seconded by Mr. Bailey, and carried, that the matter be left in the hands of the Council to meet Mr. Wills and explain growers' view to him, and see what could be done in the matter of getting better service and more information in regard to the Interstate markets.

A motion by the Northern Growers that the Horticultural Branch be severed from the Department of Agriculture, and a Horticultural Department established, was carried.

Canned Fruits' Industry.

Urging that the Federal Government should make an enquiry into the canning fruits' industry, Mr. Blackburn (Merrigum), stated that there was a feeling in the Goulburn Valley that the land was not being put to its best use. At the present time the position was moderately comfortable, but every three years or so there was a glut. They viewed with alarm the prospect of increasing the acreage of canning fruits by closer settlement without making provision for its consumption. Every case of canned fruits sent overseas was a distinct loss to either the co-operative or the proprietary canneries. They wanted to see the industry develop on right lines. The motion was seconded by Mr. Young and carried.

Grading Regulations.

After discussion, in which various growers emphasised the inadvisability of shipping plain grade and blemished fruit, which more often than not did not pay expenses, and damaged the country's reputation, it was decided to ask that the grading regulations be amended to provide (a) that no Apples be exported of a lower grade than Standard; and (b) that the standard grade include Apples of 2½ in. diameter of colored varieties, provided they were well colored.

Orchard Tax.

Introducing a discussion on the orchard tax, Mr. R. M. Finlay (Metropolitan Association), pointed out the need for funds for organisation, and referred to New Zealand, where the

Act, after being in operation for five years, was re-enacted at the unanimous request of the growers. He moved "That this conference emphatically affirms the necessity of an orchard tax, and respectfully urges the Government to have an Act passed at the earliest possible moment."

Seconding the motion, Mr. F. Thomas (Bunyip), said that in New South Wales the self-imposed tax of 1/- an acre brought in £4,000 the first year, costing £600 to collect.

In reply to questions, Mr. Ward stated that resolutions from former conferences had resulted in a Bill being drawn up for submission to Parliament, but there was so much opposition from citrus and other growers in many districts that it could not be gone on with. They could not get unity amongst the growers, and did not know what they really wanted. As soon as the growers could go along to the Department with unanimity, they would get what they wanted. Mr. Ward further stated that while the Department favoured the principle of an orchard tax he could not answer for the new ministry.

Mr. Churches claimed that the Victorian Fruit Council was a State-wide organisation, and should carry more weight than letters from individual growers.

It was finally decided unanimously "that this Conference favours the principle of legislation whereby fruit-growers are empowered to raise funds for organising purposes by means of an area or production levy."

Overseas Marketing Act.

A discussion on the Fresh Fruits Overseas Marketing Act was opened by Mr. J. W. Bailey (Narre Warren), who said that the board elected by the growers would bring together the various agents handling fruit, and go into the matter of costs. Figures prepared by the Australian Fruit Council showed that to grow, deliver, and sell in Great Britain, a case of fruit cost growers in Tasmania 11/1½, and on the mainland 11/9. At the foot of the tree it cost about 3/6 per case. The Imperial Economic Committee had queried the unexplained balance included in the agents' handling charges.

In regard to distribution in Great Britain, America sold about 25% of her fruit in London and 75% in other ports, including 29% in Liverpool and 11% in Glasgow. We reversed that. London had a population of nearly 11 million, Liverpool and surrounding districts about 7 millions; yet it got only 11% of our fruit, and other ports a very small percentage. If we had a board acting on behalf of the whole of Australia the difficulties in the way of better distribution could be

overcome, thus preventing gluts and getting better prices for the fruit. It was not proposed to interfere with ordinary trade. Growers would not elect representatives who would not safeguard f.o.b. sales. It was impossible to get organisation without compulsion.

Mr. F. Thomas stated that the views of the growers had not yet been heard on this matter, and quoted figures to show the competition we had to face from America, which produced 246 million bushels of Apples in 1926, and where the same varieties that we grew were being planted. The Act was simply to bring into existence a committee of growers' representatives to watch the interests of Australian Apple growers.

The chairman (Mr. Lang) said there need be no interference with the private liberty of any Apple exporter to sell on any market he liked. Provision could be made for a grower to put a proportion of his export in the hands of the board to distribute in England and regulate the supplies in those markets. The New Zealand Control Board was operating satisfactorily this year, and the N.Z. standard was much higher than that of Australia. A Board was operating in South Africa. In Canada recently a proposal was put forward to control the export and sale of Apples to the U.K. A conference of growers turned the proposal down, but supported the formation of a marketing board consisting of two growers' representatives and one appointed by the Government.

Mr. Lang mentioned that Mr. Thiele, a large shipper of Pears who was very successful because he was able to select special boats which were known to carry the fruit well, was doubtful whether under the board this procedure could be carried out, or whether the boats would be sent round to Tasmania, to the detriment of the Pears. Mr. Lang added that the shipping companies were after all the sole arbiters of where their boats would call, and if they could fill their chambers at Melbourne, they would not send them to Tasmania merely at the suggestion of the board. The board would take up the matter of having the holds entirely filled at each port and not re-opened. Recently the Commonwealth Line definitely allotted certain holds in each vessel to be filled at each port, and it was hoped to induce the whole of the shipping companies to do the same. At the present time the States were competing against each other for the space available, but there was ample space for all under proper distribution. With one authority speaking for the whole

of Australia, there was more chance of getting reduction of freights, insurance and exchange.

In the last few years great strides had been made in the handling of fruit, and shortly we would be in a position to say to the shipping companies,—“Carry the fruit in this way, stack it so, and keep it at a certain temperature, and it will come out at the other end in the same condition as it went in.” This marketing scheme was not Government control even to the limited extent that we had it at present. It was control by the representatives of the growers, and if the growers were not satisfied with their representatives they could change them every three years. Even the Act itself was experimental, and if not satisfactory, could be thrown out at the end of three years, and we could go back to the present conditions. It was in the hands of the growers to control their own industry. Give them the chance. (Applause).

Mr. J. Tully (Doncaster) said that the Metropolitan Association represented only a small proportion of the exporters, and was not greatly affected. There were inferences thrown out against the agents who handled our fruit. Some years ago he went to London to investigate this matter on behalf of Victorian growers. The agents handling our fruit were just as honest as we were. (A Voice: “That doesn't say much for them!”). The Northern Growers had shown an example of successful organisation on the Sydney market. We were told that growers were going to have this matter wholly in their own hands. During the last two or three years we had been told there was to be an Advisory Board to advise the Minister, and we were to have the appointing of that Board; delegates would remember what voice we had in the doings of that Board. The Metropolitan section was prepared to leave it in the hands of the growers, and if they were in the minority to gracefully accept the verdict and do their best for the industry. The majority of Metropolitan growers were averse to Government Control.

Mr. Churches pointed out that the advantages obtained by the Northern growers on the Sydney market were secured by voluntary organisation co-operatively, but with a financial advantage attached to it. That was why they were successful in getting growers to support it. Growers came to them and asked permission to join the organisation. The quickest way to make the grower co-operate was to make co-operation successful in the financial sense. In Australia co-operation was not followed for its idealism:

people always wanted to know “if it paid.” This organisation did not deal with export, and they had to ask for bounties to make up for the losses on export. Through co-operative action, canneries had secured a reduction of freight of 20/- a ton, amounting to 43d a doz. on canned fruit. This meant about £1/15/- a ton to the grower. He urged growers not to be afraid of a measure of control, but to take care to protect their own interests, particularly in regard to f.o.b. sales, and whether the fruit by a certain boat would arrive at a certain port. It would be a serious matter if a boat carrying f.o.b. cargoes should be diverted.

Mr. Blackburn emphasised the need for better distribution of Australian Apples in the provinces of England. The Liverpool Fruit Exchange was an American organisation. Fruit could be landed at Manchester from the Ship Canal, and at other ports. There was a great market for Australian fruit in the northern industrial areas.

Referring to the attitude of the Goulburn Valley growers towards control, Mr. McDonald outlined the measures that had been adopted to control the quality of the fruit going into the canneries, and to ensure that inferior stuff was not sent overseas. They adopted the principle of rejecting at the cannery door all fruit that was not suitable for export. That meant a reduction in the quantity of fruit sent to the canneries and in the growers returns. To-day they were building their own canneries, and received increased prices. As far as quality was concerned, Australia could compete equally with America. In regard to export sales, they appointed a commission to conduct their business, and had confidence in it.

Mr. W. Lipscombe asked for assurance that the Bill would not affect f.o.b. sales, and Mr. Finlay asked if the destination of the fruit was not decided by the Bill of Lading.

In reply, Mr. Bailey stated that at the present time arrangements were made early in the season for certain boats to go to certain ports. That arrangement would be made with the Board, which would take space to certain ports. The programme would be sent out to growers as it was now, and they would select a boat for a certain port. He felt confident that they would get this Board, and moved, “That this Council approves of the principle of overseas marketing acts and commends them to the support of the growers.” The motion was seconded by Mr. Thomas, and carried.

General Matters.

Referring to the taxation of primary producers' motor vehicles

Mr. Lorimer (Diamond Creek) said his Association considered the present form of taxation unjust and thought some fairer means might be devised. After discussion it was decided on the motion of Mr. Tully, seconded by Mr. McDonald, that the matter be referred to the Council to watch and take action as it thought fit.

A motion urging upon the State Government the need for the establishment of the Rural Bank in the interests of primary industries, was carried at the instance of Messrs. Thomas and Tully.

On the motion of Mr. Bailey, conference affirmed the advisability of fruitgrowers having their own journal, and the matter was referred to the Council.

It was decided to bring under the notice of the Government the increasing seriousness of the Blackberry and Starling pests.

A letter was received from the V.C.C.A., asking that the Council should bear its share of the expenses involved in the Tariff Board enquiry re duty on cases. New South Wales was paying half, and it was suggested that the V.C.C.A. and V.F.C. share the remainder. It was decided, on the motion of Messrs. Bailey and McDonald to pay the amount, viz., £3/9/-.

Importation of Apples.—The Chairman reported that the proposal to lift the embargo on the importation of Apples had been taken up by the Apple and Pear Growers' Association, which had protested to the Director-General of Quarantine against the proposed relaxation of restrictions against New Zealand. It was decided that the Council protest against the lifting of the embargo on importation of Apples from any country in which fireblight was known to exist.

At the instance of Mr. W. J. Nankervis (Diamond Creek), it was decided that conference demand a searching inquiry by Parliament into the removal of the duty on foreign Tomato pulp, the matter to be left in the hands of the Council for action.

The proceedings closed with a hearty vote of thanks to the Chairman.

During the conference, delegates and visitors were tendered a complimentary luncheon by the Beaconsfield Upper Fruitgrowers' Association, as well as social and dramatic entertainments. A happy spirit pervaded the conference, and all enjoyed their stay in the pretty and prosperous-looking hillside district.

(Instructive papers read by Professor Wadham, Mr. F. Thomas M.A., Mr. W. Gay, Forests Commission, and Mr. T. H. Grant are published in full elsewhere).

PRUNING FOR FRUIT PRODUCTION.

Are Modern Methods Wrong?

A SUBJECT which created more interest and discussion than perhaps any other, was introduced at the Fruitgrowers' Conference at Upper Beaconsfield, by Mr. T. H. Grant, one of the most experienced and respected fruitgrowers of Victoria, who blames the modern methods of pruning for the serious decline in Apple production.

Speaking as one of the oldest Apple growers in the State, Mr. Grant said:—It has been my pleasure and privilege to see and take an active part in the development of the Apple-growing industry until it became a very important one, and a very profitable business, but, unfortunately, some years ago the tide turned, and for several reasons the decline of the industry has been more rapid than its expansion in the first place. This I will endeavor to prove by a statement of facts and figures from my own personal experience and from Government statistics.

The Burnley Gardens.

My association with Apple growing began nearly 60 years ago as an apprentice to the Horticultural Society's Gardens, now the Burnley School of Horticulture. The object of the gardens was to collect, test and prove, true to name or otherwise, all varieties of fruit, and to distribute scions, etc., to members and others interested. The Apple section of the plantation consisted of one tree of each variety—a large and interesting collection. At that time the trees bore consistently heavy crops of fine quality fruit. I well remember many of the trees with branches borne to the ground with weight of fruit. The system of pruning at that time was entirely different from that in general practice to-day, and it certainly gave wonderful results. Pruning was all done with the knife. Secateurs came into use 15 years later.

The only pest we had to contend with was woolly aphis, the only means of attack being Gishurst's compound, applied with a paint brush. Blight-proof stocks were unknown. All Apples were worked on seedling stocks, yet aphis was less troublesome than now. We had no codlin moth or root borer, no bitter pit or crinkle, no dieback, no thrips or Rutherglen bug, no Departmental experts, Supervisors, or Inspectors. (Laughter.) These all followed in rapid succession, and most, if not all, have evidently come to stay.

Later on the gardens were taken over by the Government, and the Burnley School of Horticulture was founded. The old Apple orchard was grubbed out, revised, replanted, trained, and pruned under the direction of the orchard staff of the Department of Agriculture, and although the trees are now of mature age it is doubtful if they are producing an average of one case per tree.

What is the Reason?

Forty to 50 years ago many pioneer fruitgrowers within 35 miles of Melbourne were producing heavy crops and making money, although the ruling price for Apples was 4/- per case. Among these were Charles Draper, of Arthur's Creek, probably the most successful grower Victoria has known; H. U. Cole, of Upper Hawthorn; W. A. Shepherd, of Somerville; and many others. Later on William McLean, at Healesville, planted one of the best Apple orchards in the State. About the same time the late Mr. Theo. Kitchen planted the Hillside Orchard, Pakenham, 40 acres, and the late Mr. J. A. Kitchen 80 acres at Toomuc Valley, both plantations being directed by the late Mr. H. H. Hatfield, one of the best-known orchardists in the State. The Toomuc Valley Orchard was later extended to 210 acres, and developed into the finest Apple plantation in the State.

Over 20 years ago many individual trees produced 15 to 20 cases, and acres averaged eight cases a tree. One selected acre of Yates, which received special treatment, care, and attention, produced in the three consecutive seasons a total of 3,150 cases, all prime fruit. The first two seasons the fruit was sold at an average price of 7/- a case. A cool store was built in time for the third year's crop, which averaged over 10/- a case. Many of the Apples were sold by a well-known Western Market agent for £1 a case. These fine crops of fine fruit were grown without any thinning whatever. Just think of it, over £500 in one year from one acre by old-time methods! If this is possible on one acre, why not on 10?

The Decline in Production.

One of the best-known orchardists in the State, with every possible advantage—good land, good site, very fine trees, unlimited water and manure, personal care and attention—assured me that his crop of Yates averaged less than three cases a tree. He thinned to two Apples in a bunch, and to get good size next crop he would thin to single Apples. Here, again, is undisputed evidence of something wrong. Acres of magnificent Yates trees in the Pakenham district 20 years old are averaging less than

three cases, and this only after severe thinning. Why, if not due to wrong pruning?

Similar conditions exist at Healesville on the fine orchard previously referred to. This orchard contains many acres of splendidly grown trees. Years ago many individual trees produced up to 25 cases, and acres averaged eight and ten cases of very fine fruit. Here, again, production has dropped to two cases or less. What is the reason? Six hundred acres of the best orchards in Beaconsfield to Nar-nar-goona districts average less than two cases a tree, the balance of bearing orchards less than one case.

Government statistics show that Victoria, in 1925-1926, with 5,500,000 bearing trees in large fruits, produced 5,266,000 cases, or about 35,000 cases short of one case per tree; 1923-1924 a little over one case—a very disquieting state of affairs.

The most amazing aspect

of the whole affair is the utter indifference of the orchardists to the seriousness of the position, while all admit that their orchards, with a one and two case output, are not paying. They are content to go on, hoping for good luck and better seasons to right things again.

Now, a one-case crop costs about 9/- a case to deliver to the railway. A fair selling price would be 7/- a case, showing a loss of 2/- a case. A four-case crop, which a well-conducted orchard 12 years old should produce, would return a net profit of 12/- a tree—£60 an acre. An eight-case crop, which is easily possible, would net £140 an acre.

Why Grow a One-case Crop at a Loss?

If further proof is required of the decline in the industry we have it right before us in the fact that in 1914, when the thrips pest made a clean sweep of our Apple crops, growers were in a position to carry on without Government assistance, whereas this season, with a partial failure, many old-established growers have applied for financial assistance to the extent of many thousands of pounds.

Now, as nothing happens by chance in nature, there is a reason, or several reasons, for the undoubted decline in production, both in quantity and quality. Personally, I am convinced that

the principal contributing causes are wrong methods of pruning, spraying, cultivation and manuring, and the uncertain and unprofitable condition of the overseas market, which is due to the deplorably low standards set by the Agricultural Department,

too lax supervision by some inspectors, and the low estimate by many growers as to what constitutes a prime Apple.

Probably in no other branch of fruitgrowing is there so great a difference of opinion as in pruning. Scarcely two will agree on any one point, but net financial results per tree over a number of years should decide the question. If this is so, then the prevailing system—which, originated in the Burnley Gardens many years ago, was practised and advocated by Departmental orchard chiefs, experts, and inspectors, and adopted by many of our once successful orchardists—is all wrong. Nature says it is wrong. Experience and practice say it is wrong, and undoubtedly financial results prove it so.

Mr. Grant then displayed a number of photographs showing old Apple trees of spreading habit borne to the ground with heavy crops of fruit, and other trees pruned to a few main upstanding limbs, which, Mr. Grant maintained, was the reason for their low yields. In answer to a question, Mr. Grant stated that the old system of pruning differed from the present by leaving both more laterals and more main branches. The best average crops that he could find nowadays were from trees pruned practically on the old system.

Growers' Opinions.

Mr. Lorimer (Diamond Creek) pointed out that there were pests nowadays which did not exist in the old days, and it was necessary to prune to combat them. He believed in the new system of pruning on a modified scale. Growers had to study their ground as well as their trees.

In regard to spraying for black spot, various growers expressed the opinion, with which Mr. Grant agreed, that the time to spray was before there was a leaf on the tree, just before the buds burst. He then showed a photograph of a tree, one-half of which had been sprayed and carried a clean crop of fruit; the unsprayed half was full of black spot, which, he stated, showed that the spores did not move about. He regarded bluestone as more reliable than lime sulphur.

Mr. C. P. Nobelius (Warragul), referred to an experiment conducted on four rows of trees in his orchard by Mr. Brittlebank. On those where lime sulphur was used, the yield was two cases a tree; with bluestone and soda (Burgundy mixture), four cases a tree; with bluestone and lime (Bordeaux), five to six cases a tree. The latter had to be picked over five or six times to get all the fruit up to size. He was of the opinion that lime-sulphur was destroying half the crops.

Departmental Experience.

Replying to Mr. Grant, Mr. J. M. Ward (Superintendent of Horticulture), said that Mr. Grant wrote him some weeks ago informing him of his intention to criticise the Departmental methods of pruning, and hoped that some officer would be present to reply. "We have had a long conversation on this matter," said Mr. Ward, "and we see eye to eye on very much of it. I want to congratulate Mr. Grant on bringing up this matter. Mr. Grant stated that he had received his early training in pruning at the School of Horticulture, at Burnley, and it was therefore very pleasing to know that the Department of Agriculture had turned out such a fine student as Mr. Grant from Burnley Orchards. (Laughter and hear, hear.) There is probably some truth in what Mr. Grant says in regard to the decline in production. Going back many years ago, both in Victoria and Tasmania, we obtained from our fathers and grandfathers the English system of pruning—of treating the main arms of our Apple trees somewhat on the cordon or espalier system. In other words, we pruned our main arms in such a manner so as to cause them to carry fruit spurs from the trunk of the tree to the top of the tree. This system was practised in the early days of Apple growing in Victoria and Tasmania. We have since varied it according to conditions and variety of tree. At the present time in Tasmania, many of the largest and most successful orchardists are still practising the old system of spur-bearing wood. This means a tremendous lot of pruning. That system, with a slight variation in accordance with locality and variety of tree coincides with the Departmental methods in Tasmania and here. Many of these trees, which are 60 to 80 years old, are still bearing from 1,000 to 1,200 bushels to the acre.

"I would, to a considerable extent, discount the methods of pruning, so far as being the cause of any decline in yield is concerned. When commercial orchards were first planted in Victoria and Tasmania, they were in picked spots of good soil. With the increase in area, however, there was a gradual swing-over to the poorer classes of soil, more particularly during the last 20 years. Land has been planted to Apples which was not worth the price of the fencing. That applies particularly in Northern Tasmania, and perhaps to a lesser extent in portions of Victoria and Queensland. Such land does not contain sufficient plant food to enable trees to produce profitable crops over an extended period. We can sum up the whole position in one word—starvation.

"Regarding fruit bearing laterals, it is more or less since the Jonathan has been commercially planted that we are getting away from the spur-bearing way, and we have extended that lateral-bearing system to other trees, more so during the last 25 years. I believe in allowing a tree to carry as many main arms as the tree will allow and provide each main arm with sufficient fruiting laterals or spurs to enable the tree to yield the maximum amount of fruit; in other words, lay down a principle, and treat each tree in accordance with its individuality. If some trees are making heavy growth, it is necessary to prune them lightly, otherwise you will have heavy growth, few fruits, and poor quality. One has to consider the individuality of each tree. A Tasmanian grower who harvests 18,000 cases of Apples annually from 35



Yates Apple Tree, 20 months grafted, grown by Mr. T. H. Grant, Beaconsfield. Pruning system and development will be recorded annually.

acres of orchard is practising exactly the same methods as the Departmental officers here and in Tasmania advocate. As the Conference has passed a number of resolutions asking the Department to initiate further experiments, etc., these, together with my foregoing remarks," said Mr. Ward, "should be sufficient reply to Mr. Grant's friendly criticism of Departmental methods.

"In respect to control of Black Spot, a considerable amount of investigation has been carried out. I consider that Victoria has done more work on black spot of Apples and Pears, par-

(Continued on p. 245.)

Answers to Correspondents

"Die-back" in Apple Trees.

"Enquirer," Tyabb, Victoria, writes: Is there any cure for the loss of Apple trees which have been top-grafted, and after a few years begin to die back? It often begins with one limb, the bark looking "blistered," and gradually affects the whole tree.

I understand the disease is, in most cases, travelling down below the apparent (external) junction of bad wood and good wood, but it seems a great waste to dig out such trees and find large strong roots still apparently healthy, and I wondered whether by cutting a certain distance below the apparent damage, and treating with some "solution" it would not be possible to save the tree. Any advice, either from practice or technical theory, would be much appreciated.

Answer (by D. B. Adam, Plant Pathologist).—The injury reported is due to a fungus which infects the ends of the limb cut off to permit the graft being made.

"Enquirer's" best remedy lies in preventing this early infection. Disinfection of the wound should be effected immediately the limbs have been cut off by swabbing the wound with either one of the three following watery solutions of disinfectant:—

(1) Corrosive sublimate—1 part to 1,000 of water. (This chemical is extremely poisonous to human beings, and should be used with the utmost care.)

(2) Bluestone—1 oz. to 3 quarts of water.

(3) Permanganate of Potash—1 oz. to 2 quarts.

Top graft as soon after cutting a tree down as possible; the grafting wax employed will prevent re-infection after the grafting is done.

FERTILISING CITRUS TREES.

E. J. Dunn, Wentworth, N.S.W., writes:—Owing to a breakdown in our pumps a few weeks back, my citrus suffered severely for want of water. I have now irrigated, and it is I think necessary that I manure immediately whilst there is plenty of moisture in the soil.

I should very much like you to advise me as to the best mixture to apply immediately to give the trees a gentle tonic (on account of frosts), and to fill out the Valencia Lates, which are already beginning to show colour; also what would be the best spring tonic? This is an excellent patch of citrus of which I am very proud.

Answer (by S. A. Cock, Citriculturist, Vic.)—It is not advisable to apply fertilisers at this period of the year. Frosts may occur, and any tender growth appearing as the result of a late application of fertiliser may be destroyed. The late irrigation should do all that is requisite as regards filling out the fruit.

As regards fertilisers to be applied in the spring, it is very hard to advise any particular manure. In the absence of any knowledge of what has been applied to date, also the condition of the trees at present, you are recommended to refer to the bulletin, "Citrus Culture in Victoria," in which there is a good deal of information in regard to fertilisers.

RE-WORKING WINTER BARTLETT PEARS.

G. Roberts, Hanwood, via Griffith, N.S.W., writes.—I have some 150 Winter Bartlett Pear trees, 14 years old. I want to bud (or graft) them over to Josephine de Malines, and would like to know if they would be a success? Also if Baron von Muller brown Pear is a suitable cross-polliniser for Packham's Triumph?

Answer (by A. F. Thiele, Doncaster).—It would be quite safe to graft or bud Winter Bartlett Pears to Josephine de Malines. At this time of the year grafting can be done, and would give the quickest results. If any of the grafts failed to take, buds could be put in in the spring.

I have no experience of the Baron von Muller Pear. Winter Nelis blooms at the same time as Packham's Triumph, and is generally used for cross-fertilisation.

Answer (by J. H. Lang, Harcourt, Vic.)—It would be quite all right to work over Winter Bartlett to Josephine de Malines Pears.

When grafting do not head the trees back too low, but make use of present tree as a framework. A much quicker return will then be obtained. Twenty to thirty grafts could be put on each tree.

I have had no experience with Baron von Muller brown Pear.

TREATMENT FOR SHOT HOLE FUNGUS.

B. Cunich, Young, N.S.W., writes.—Could you tell me which is the best spray for controlling Shot Hole Fungus? I have never had much to do with this disease, but this last year the trees were badly infested.

Answer (by A. A. Hammond, Senior Orchard Supervisor).—The most effective spray control is Standard Bordeaux Mixture, that is 6 lbs. Blue-

Classified Advertisements

Wanted and For Sale.

Prices for Advertisements under this heading are as follows:—

Casual Advertisements, one to six words, 2d. per words. Contract Advertisements, twelve months, 1½d. per word.

SITUATION VACANT.

Capable Citrus Packing House Manager Wanted.—Must have thorough knowledge of accounts and the handling of Citrus fruits. State salary required. Duties to commence first week in July, 1927.—Apply to Murrabit Packing Co. Pty. Ltd., Murrabit, Victoria; J. H. Morton, Secretary.

stone, 4 lbs. Fresh Lime to 40 gallons of water. Two applications should be given. The first spray should be applied as soon as possible after the leaves fall. The second application should be given at the "pink" stage.

Trees should be pruned rather heavily and well manured to induce new growth. The fungus over-winters in the old spurs and twigs, and these should be judiciously thinned out, and all debilitated or dead wood cut out at pruning.

The spray mixture should be applied when the trees are dry, and the application should be thorough.

In further reply, the Biologist of the N.S.W. Agricultural Department, states that the "shot-hole" disease of stone fruits in N.S.W. is most commonly found on the Cherry, Plum and Peach.

Experiments in the control of this disease are still in progress, but as a recommendation at the present time it is suggested:—

- (1) That the fallen leaves be ploughed under as thoroughly as possible at the first ploughing, and that subsequently they should not be again brought to the surface by subsequent working.
- (2) Spray with Bordeaux 6-4-50, or ordinary lime-sulphur (summer strength) just before buds burst in the spring.
- (3) Spray as in (2) when petals fall.
- (4) If the disease is serious, an additional spray might be applied three weeks later.



SOUTH AUSTRALIAN FRUIT EXPORTS.

Report of the Government Produce Department.

THE REPORT of the S.A. Government Produce Department for the year ended June 30, 1926, indicates that the year's operations resulted in a loss of £14,304/0/5, chiefly due to the failure of the lamb export trade. In regard to fruit, the quantity and value shipped overseas for the season 1925-26, were as follows:—

Apples—98,553 cases, at 5/- case; value, £24,638/5/-.
Pears—1,174 cases, at 5/- case; value, £293/10/-.
Grapes—170 cases, at 15/- case; value, £127/10/-.
Oranges—1,072 cases (Californian, at 17/6 case; value, £938.
Plums—6,172 trays, at 3/- tray; value, £925/16/-.
Dried Fruit—3,207 boxes, equal to 178,840 lbs., at 4½d. lb.; value, £3,353/5/-.
Honey—400 tins, at £1 tin; value, £400.
Wine—426 hogsheads (26,542 gals.); value, £5,650/11/6.
„ 9 cases, at 30/- case; value, £13/10/-.

Apples and Pears.

The Apple export season for 1926 was one of the most disastrous experienced by Apple growers. There was an exceptionally heavy setting of fruit, but owing to unfavorable weather conditions the fruit did not mature to usual size, and consequently there was a large quantity of small fruit and the trees received a very severe set back. In addition the market for Australian Apples in England was greatly affected by the coal strike, and the prices obtained will not pay the growers the cost of producing and marketing their products.

During the year 328,600 cases of Apples and Pears were shipped overseas from South Australia, and the bulk of this was shipped to the United Kingdom, but approximately 25,000 cases were landed in Germany or North Continental ports.

Of the total quantity shipped, 100,096 cases were pre-cooled at the Department's Port Adelaide Depot and shipped by the Department, and 80,139 cases were sold through the Trade Commissioner.

The average price obtained by the Trade Commissioner for all varieties for the season, was 10/4½d. per case, and the average cost of packing and marketing the fruit was approximately 9/- per case, so growers received only 1/4½ per case for their

Apples, which is at least 2/2 per case less than the cost of production.

The Department insured its clients against claims for excessive spray, but fortunately the Imperial Health authorities found no cause for prosecution in connection with Australian Apples, but the growers will remember this season on account of their having to remove traces of spray in order to pass the Commonwealth inspection before shipment. This was an added expense to growers this year.

The Trade Commissioner reported that the general packing of the fruit consigned to him was a great improvement on other years, and he stated that the labels used by the Department were very attractive. He also commended the Orchardists' Association for their pack, which was considered amongst the finest from the Commonwealth.

The principal varieties of Apples and Pears shipped for sale through the Trade Commissioner included:—

Apples—

King David, 1,347 boxes, gross average, 9/5.
London Pippin, 2,067 boxes; gross average, 6/8.
Rome Beauty, 11,314 boxes; gross average, 7/5½.
Stone Pippin, 1,147 boxes; gross average, 7/9.
Cleopatra, 28,104 boxes; gross average, 13/0½.
Jonathans, 24,933 boxes; gross average, 9/11½.
Dunn's Seedling, 6,819 boxes; gross average, 11/4½.

Pears—

Josephine, 33 crates; gross average, 24/-.
Packham's Triumph, 46 crates; gross average, 22/6.
Do., 46 half cases; gross average, 11/1.
Clairgeau, 111 half cases; gross average, 7/6.
Glou Morceau, 195 half cases; gross average, 2/11.
Vicar, 102 cases; gross average, 11/7½.
Madam Cole, 113 half cases; gross average, 5/2.

Small consignments of Beurre Bosc and Capiamont were valueless.

The sizes of the fruit sold through the Trade Commissioner were as follows:—

Size.	No. Cases.
2 inches	3,729
2½ inches	144
2¾ inches	39,865
2½ inches	25,137
2¾ inches	9,926
3 inches	1,438
	<hr/> 80,139

The destinations of the fruit shipped from this State were:—

	Boxes.
London	189,702
Liverpool	45,555
Colombo	2,076
Hull	47,685
Manchester	2,279
North Continental Ports	20,892
Bremen	4,208
Port Said	1,000
Antwerp	3,732
Hamburg	11,134
Glasgow	337
	<hr/> 328,600

Table of Australian Exports of Apples and Pears During the Last Three Years.

	1924.	1925.	1926.
Hobart	1,008,430	1,352,565	2,077,081
Adelaide	257,839	36,604	328,600
Melbourne	186,125	502,026	498,100
Sydney	21,759	30,713	19,113
Fremantle	278,754	364,229	319,601
	<hr/> 1,752,907	<hr/> 2,286,137	<hr/> 3,242,495

Oranges.

There was only one shipment of Oranges to the United Kingdom during the year, which left by the "Osterley," on July 30, and consisted of 1,073 cases, including 30 cases for the Wembley Exhibition.

Plums.

Following the experimental shipment of Plums, plum growers made two shipments, consisting of 5,478 trays, per s.s. "Westmoreland," on February 17, 1926, and 493 trays per s.s. "Largs Bay," on February 20. The whole of the fruit was packed in trays measuring 17 ins. x 11½ in. x 2 ins. inside measurements.

The s.s. "Westmoreland" carried her consignment for 52 days, and it landed in very forward condition, and the quantity proved too great to market in the limited time allowed by the condition of the fruit, and consequently the shipment was not a financial success, although there was further evidence that the Plum business can be properly established.

The s.s. "Largs Bay" landed her fruit, after a 37 days' voyage, in good condition, and an average of 8/0¼ per tray was realised.

THE FUNDAMENTAL PRINCIPLES OF CITRUS GROWING.

Owing to excessive pressure on space, the continuation of Dr. Redvers Blatt's article is held over until next issue.

The Scientific Outlook on Some Orchard Problems

Address by Professor S. M. Wadham, Agricultural School, Melbourne University
How Trees Grow

SPEAKING to an interested audience at the Fruitgrowers' Conference at Upper Beaconsfield, Professor S. M. Wadham, Professor of Agriculture at Melbourne University, stated that though not himself a horticulturist, he was naturally interested in the development of horticulture. At the Agricultural School, the training of graduates for the horticultural as well as the agricultural work of the Department came under his view; there were extensive courses of lectures on horticultural and viticultural subjects. As a citizen he was naturally interested in the development of Australia, and the prosperity of the horticultural industry would, with a satisfactory export trade, materially assist that development.

Referring to the "Georgics" of Virgil, written some 2,000 years ago, Professor Wadham stated that the Romans knew almost as much as we know about budding and grafting, cultivation of the orchard, ploughing in crops, getting rid of weeds, or keeping the trees in shape. There must be some very good reason why our knowledge of horticulture had not made more progress in this 2,000 years. In modern horticultural literature there was very considerable variation in the advice given; there was no unanimity on questions of manuring, pruning, etc. In controlling insects and fungi, and in the use of machinery, we had made advances, but in matters affecting the tree and the crop our knowledge had remained more or less stationary.

There were probably two reasons for this, the first being that experiments on trees take a very long time and cost a great deal of money, and it was only in recent years that we had had big enough associations of growers—or big enough State interests behind the growers—to make experiments on these problems; but still more important was the fact that we did not know enough about the fundamentals of the life of the living plant, or the actual details of its growth.

All science moved forward along well defined lines; observations must first be made and then a picture of the process under study must be constructed. Now, in forming their picture of the living plant, many people had tried to regard it in accordance with their own particular desires, or as if it did things with a purpose.

Trees did not grow upward because

they consciously wanted to, any more than a child did. Trees grew up in certain ways because of the conditions which obtained inside them.

What was wanted in connection with all questions of growth, manuring, etc., was a better picture of what was happening **INSIDE** the tree.

He would endeavor to give an account of those actual facts which were known about the internal mechanism of the tree, and further, to give a summary of recent promising theories which seemed to furnish a better picture.

The tree was a living thing, consisting of a vast chain of chemical laboratories, cells, all of which were interlocked one with the other.

At the tip of each shoot was a little mass of growing cells, each containing within it some living matter.

T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

The main bulk of the trunk consisted of materials which were dead. The living material must have certain kinds of food, and we recognised that accordingly, as those foods were supplied to the tree, so we should have corresponding results coming to light in the external growth and the form that the tree took.

The first of these necessities was water. Inside a tree the amount of water was surprisingly constant. The next kind of food was that which the tree made by means of its green leaves, i.e., food from the air. The amount of food made depended almost entirely upon the area of leaf surface which the tree had. In Victoria there was no limitation of this process of manufacturing food from the air, owing to deficient daylight. We did not attempt to control this process.

The third group of substances, that is, the food gathered from the soil, was very largely under our control. The new theories suggested that the growth of the tree, the amount of flower bud formation, the setting of fruit, and pollination (which were very closely interlocked), were largely a question of the supply of soil food. It was necessary to have a certain ratio inside the tree between the air food and the soil food. Shortage of soil food might result in the necessary ratio being absent and consequently cause failure of the fruit to set, or failure of the flowers to form. On the other hand, over-abundance of soil food might upset the ratio in the opposite direction and lead to water shoots, etc. This regulation was of paramount importance, and required very serious investigation.

We could control the amount of soil food in a variety of ways. Of the foods which the plant took from the soil, the simplest to deal with were the phosphates. Probably phosphates, although essential, were not the element which was most frequently lacking when we had troubles of malnutrition in trees. It was far more likely to be a question of lack of nitrogenous material in the soil which caused lack of fruit formation in the tree. The simplest remedy was to apply some ammonium sulphate or some nitrate to the soil; but this course was not generally advisable, as it tended to make the soil, especially the heavier soils, hard to work. It was better to increase the stock of nitrates in the soil in other ways. The nitrates were largely dependent on the amount of humus in the soil. The ploughing in of crops of Peas and other legumes increased the stock of nitrates in the soil and enabled the tree to carry on its growth and produce its crop of fruit.

The important feature was that we should be able to detect from the actual condition of the tree itself the condition of nutrition which prevailed within it. It was found in some trees that the leaves got rapidly smaller as they went up the shoot. This was said to be due to a lack of soil food, especially nitrates. If a tree showed that feature, there was probably a nutritional balance deficient in nitrate when that shoot was formed. It was said that when a tree made very large shoots which grew rapidly, with very broad leaves all the way up the shoot, that tree had had an excess of soil food, particularly nitrates.

On the general question of balance of food, it was suggested that at the time when the flower buds were being formed, if the food material in the

tree was not in the correct balance, having either too much nitrate to air-food, or too little. Then there was a condition when flower buds would be formed in very small numbers. It was further suggested that at the time of flowering there was a special demand for nitrates, as the pollen made a very heavy demand on the nitrates in the plant. It was quite possible that some of the failure to set blossom this year was due to there being an insufficient supply of nitrates in the soil, and a similar condition might prevail in other years. If the nitrate was very largely being formed in the soil as the result of the activity of bacteria on humus, then a very dry year, a cold winter, or alternatively a poor supply of humus in the soil, would give rise to conditions which would lead to a poor setting of the fruit. The speaker understood that last winter was exceptionally dry, and there might in some cases have been a deficiency of nitrates in the soil.

If growers found that their trees were in a condition which suggested a lack of balance in the two kinds of plant food, then something must be done. If they found that the buds were thin, that the portions of shoots formed in the autumn were thin, or if they knew that there was not much food in the soil, then it was well worth while trying a slight top-dressing of some nitrogenous manure, such as ammonium sulphate, around the trees just before flowering took place, so that the tree might have a stock of nitrogenous material in it to enable the pollen tubes to function properly and to cause the setting of the fruit. This was only a suggestion; it might apply to one type of Apple rather than to another, but it was worth investigation. Growers should select two or three rows of trees, if they felt that conditions were such that there was likely to be a shortage of food in the soil, try this experiment and see if there was any result.

These ideas had never been tried in Australia, and only in limited areas elsewhere. It was only by trying to develop our picture of what was going on within the tree, and examining chemically the actual materials around the growing tips of the young shoots, that we should be able to make real progress in our picture and so solve the many problems involved in the proper cultivation of orchards.

Professor Wadham was accorded a hearty vote of thanks for his address, to which delegates listened with absorbed interest.

"Some friend give you that cigar?"
"I don't know yet."

Softwood Timbers.

The Value of *Pinus Insignis* for Case Making.

To demonstrate the value of *Pinus insignis* as a timber for the production of fruit cases, Mr. W. Gay, of the Victorian Forests Commission, at the Upper Beaconsfield Conference, displayed samples of cases, shooks and boards, both seasoned and unseasoned, which were the subject of favorable comment by growers. "We must go in for the production of softwoods in Victoria," said Mr. Gay. About 2½ to 3 million pounds was paid annually for the import of timbers that could be produced here. *Pinus insignis* had not yet been grown here in sufficient quantities under proper conditions to allow of its milling quality being generally known. Grown as shelter trees and for beauty, it produced big laterals, and could not be expected to be first-rate timber.

There were limiting factors which must govern any system of softwood growing in Australia. The first was climate. With our natural advantages in Victoria, there were only comparatively small areas which would produce Oregon, Redwood, and Spruce—the best softwoods—but *Pinus insignis* would do well with a rainfall of from 25 to 35 inches, and big tracts of crown lands and waste lands in the State were entirely suited to it.

The second factor was soil; *insignis* would do well on comparatively poor soil, if well drained. Another factor was rotation. Annually we imported tremendous quantities of softwoods from abroad, and in the next decade the position would become very much more acute unless relieved to some extent by local plantings. Species which took 50 or 60 years before they could be profitably cut would not relieve the position. *Insignis* could be cut in about 25 years. When trees were

planted at 680 to the acre, they must be thinned out in 12 to 15 years, and the most profitable way of disposing of the thinnings was fruit-case shooks.

Among objections commonly urged against *insignis* was that it was practically valueless in its native habitat (California), and was dying out. It had improved with its change of home. Whereas in America it took 80 to 100 years to come to maturity, here we could get three rotations in that time.

In regard to knots, if grown in close formation under proper silvicultural conditions, the branches robbed of light died, and there was a practically clean bole for 25 to 30 feet. It was no more knotty than any other species of pine. In quality of the timber it compared favorably with Western Yellow Pine (*P. ponderosa*) and Oregon. Its chief use was for boxes and crate making, but it was also used successfully in bridges, scaffolding, tunnelling, buildings, etc. It also made attractive furniture, and was good for paper pulp, of which we imported immense quantities.

It made admirable fruit cases, strong, clean, good in appearance, and standing well up to the work, and could be produced at a comparatively cheap rate. From the Commission's plantations they could turn out cases at about 1/- on trucks. They could not yet meet the demand.

In answer to a question Mr. Gay said that softwoods in the world were being cut four times quicker than they were grown, and it was likely that in 25 to 30 years the supplies would be exhausted.

Several growers testified to having used the *insignis* cases for years and found them satisfactory. A hearty vote of thanks was accorded Mr. Gay.

PREVENTS :-

CURL-LEAF
BLACK-SPOT
SHOT-HOLE
MILDEW



Don't Bother
mixing
Bluestone & Lime
when this is
JUST as GOOD
JUST as CHEAP
and
Much Quicker

Sole agents for Victoria :

LAWFORD'S FRUIT EXCHANGE PTY. LTD. DONCASTER

Tasmania

The Season's Export :: Fruit Shows :: Orchard Work.

THE WEATHER CONDITIONS continue dry, practically no rain having fallen in the mid-land areas since early February. Although farmers are severely handicapped in sowing their early crops, the fruitgrower has experienced exceptionally suitable conditions for harvesting.

The bulk of the crops have now been gathered, and full opportunity taken of the cold storage space available.

Many growers are holding large quantities of the later keeping varieties in their packing sheds under ordinary storage, anticipating a brisk demand as soon as the softer late mid-season kinds have been cleared.

Exports.

It is evident that the original crop estimate will not be exceeded.

When the last vessel loading for overseas ports has departed, it is estimated that the total shipments will now approximate 1,100,000 cases, many growers increasing their late bookings.

The difficulty this season has been to obtain the requisite quantities for the vessels visiting the State. Hitherto experiences were just the reverse, and it has often been necessary to exclude consignments that were in excess of space allotments.

To-day the cabled press reports of prices in the United Kingdom for early shipments do not average as high as those returned from Sydney and Brisbane.

The tendency all through the season has been to divert overseas consignments to the interstate trade. Although the grower cannot be blamed for desiring to place his crop to the best advantage, the policy of neglecting the overseas market, when prices are good upon the mainland is a short-sighted one, as difficulty may be experienced in the future in obtaining sufficient vessels when markets are not so favorable. The total marketable crop of Apples should approximate 2,500,000 bushels.

To date 790,000 cases have been shipped to mainland markets, and 857,000 overseas.

Stranding of S.S. "Riverina."

Fruitgrowers throughout S. Tasmania generally expressed regrets when they learned that the popular freighter "Riverina" had stranded at Gabo Island.

During the course of recent seasons, this vessel has formed the main connecting link between S. Tasmania

and the Sydney markets, annually transporting nearly one million cases of fruit. Luckily there was a comparatively small cargo when the mishap occurred, only 19,000 cases being loaded from southern ports.

Fruitgrowers have been notified through the press that it will be necessary to jettison the cargo, as it is impossible to discharge owing to the exposed situation.

The s.s. "Zealandia" has been diverted from the coastal trade to fill Hobart-Sydney service.

Improved Apple Case.—Although the Tasmanian hardwood Apple case is generally considered one of the strongest containers used for fruit transport, many criticisms have been made in regard to its rough and unsightly appearance. The shipment which was forwarded by the "Malaja" demonstrated that this could be largely remedied at the comparatively small cost of 1½d. to 2d. per case over existing prices.

By limiting the timber to seasoned boards and passing these through an improved planing machine, these defects can be removed, and a neater, lighter, and more attractive case

the carriage of Apples to the United Kingdom, has been proved to be caused by faulty conditions of transport, there are a number of advocates for "pre-cooling," as a safeguard against deterioration of consignments.

The conditions of export in Tasmania are very different from the mainland. Here the temperature during the shipping season rarely rises above 75 deg. F., with an average minimum of 50 deg. In a normal season over 1,500,000 bushels are exported; these must all be handled and loaded within ten weeks, and sometimes two or three overseas vessels are lying at the wharves at the same period.

It will be obvious that any system to effectually "pre-cool" such a large quantity of fruit before shipment will have to be carefully considered, otherwise there are serious risks of congestion, especially if vessels do not arrive at scheduled time.

The fruitgrower is generally alive to any improvements which will minimize the risks of export, but a large section consider that some careful experimental work is necessary to demonstrate the advantages of the recommended system before it is applied to all overseas exports.

Fruit Shows.—The Collins Vale Fruit Show was held on May 3, and again proved one of the most successful functions of its kind in S. Tasmania. The Show was opened by the Hon. L. M. Shoobridge, who commented generally on the improvements effected and the general excellence of the exhibits. Practically the whole of the fruit section was confined to "case" exhibits and some very close contests were experienced, Messrs. A. and W. Cooper securing the premier honors in the different classes.

The Bagdad Valley Association also staged a very effective display at its Second Annual Fruit Show, a splendid range of fruits being exhibited.

The most successful competitors were S. J. Bisdie, C. W. Graves and A. Gillow. In several classes as many as 30 plates of fruit were entered, and great difficulty was experienced in making the awards.

A packing competition was also held in conjunction with the Show, the contest being open to all competitors. The Fruit Expert, Mr. P. H. Thomas officiated as judge, points being awarded for "Speed," "Wrapping and Alignment," and "Packing and General Appearance."

The following were the awards; the maximum points being 60, competitors being required to pack a case of 2½ inch Sturmer Pippins. Ten entries were received:—1st, G. Gore: time, 3 min. 39 sec., 54½ points; 2nd, K. Ed-

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

**3 SALTER'S HALL COURT,
London, E.C., England**

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

manufactured. Another advantage is the additional clearness which the smooth surface imparts to the stencils used for branding. Arrangements are being made to supply a large quantity of these cases for next season's shipments.

Pre-cooling of Fruit for Export.

The visit of Dr. Kidd, of the Low Temperature Station, Cambridge, has again brought forward the question of "pre-cooling."

Although the greater proportion of the damage which is experienced in

dington: time, 3 min. 35 sec., 50 points; 3rd, D. Gore: time, 4 min. 45 sec., 45 points.

S.S. "Northumberland" Case.—After years of protracted litigation the Privy Council has at last brought finality to this case by its recent verdict upholding the shipping companies' claims that the consignments of Apples in this vessel were damaged by some "inherent defect" to which the fruit was subject.

To the lay mind the verdict seems most extraordinary, especially as the Cambridge Low Temperature Station established that a precisely similar condition in subsequent years was caused by "suffocation" of the fruit through insufficient ventilation.

A perusal of the evidence given when the case was before the Court shows that the verdict was arrived at chiefly on account of the witnesses being unable to prove that the condition known as "brown heart" was

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

affecting the consignments, as at that period no research work had been undertaken to show the causes of this injury.

If a case had been cited in respect to subsequent shipments the following year, when the causes were known, no doubt a favorable verdict would have been gained. It is noteworthy that one particular vessel whose cargo was last year affected with "brown heart" accepted the responsibility of the damage and paid out on all claims received.

CONTROL OF ITALIAN FRUIT EXPORTS.

It is reported from Rome that steps are being taken to provide for the official marking of certain agricultural products intended for export. The first articles likely to be marked are said to be fruit and vegetables.

ORCHARD NOTES FOR JUNE.

(By P. H. Thomas, State Fruit Expert.)

Pruning.

IN MANY CASES this operation is left until late in the dormant season, resulting in the work being hurried, and insufficient time left before growth commences to carry it out satisfactorily.

It is advisable to commence pruning early this month, beginning with stone fruits and varieties that lose their foliage early in the autumn. This will allow careful attention to be paid to the spur pruning which is so essential in bearing trees if regular crops of good quality fruit are to be produced. When thinning bud clusters, the object should be to eliminate all diseased, barren and unhealthy spurs, leaving sufficient of the healthy groups properly spaced along the limbs. If this is attended to each season the trees can be easily maintained in a satisfactory condition, but if neglected for two or three years the work soon becomes a difficult and tiresome operation.

Each year the fruitgrower is also often faced with the necessity of removing certain limbs or portions of the tree for some cause or other. Unfortunately this operation is often carried out in an unsatisfactory manner, the wound being left rough and exposed to the attacks of fungus. The work should be performed with a pruning saw, the cut surfaces being trimmed smooth with a knife and covered with a fungicidal paint such as white zinc or creosote.

Drainage.

Areas situated on fairly level ground and subject to the influence of the winter rains will benefit by the use of water furrows to carry off any surface accumulation of water. These should be run in the form of single plough furrows between the centre of the trees and intersecting at right angles. By this method even the wettest areas can be kept in a much better condition during the winter. The treatment must only be considered as supplemental to underground drainage and will not correct conditions due to soakage or underground seepage, for which a proper system of tile or stone drains should be installed.

Lime.

Lime is one of the most important elements necessary to plant life, and is generally deficient in most Tasmanian orchard soils. Applications of lime will be of great benefit to the orchard soil under conditions such as marked acidity, or a stiff clayish texture. Such

will also, by chemical action, release and make available the different plant foods which may be present in an unassimilable condition. Application should now be made at the rate of from 10 cwt. to one ton per acre, the lime being scattered on the surface by means of a "spreader" and ploughed under. Either "roche" or "slaked" lime may be used, but the former, though more expensive, is desirable, especially where the soil texture is to be improved.

Cleaning Up Time.

During this month the orchardist should take the opportunity of overhauling the spray pump, ploughs, discs and other cultural implements that are not in use so that they will be in readiness for the coming season. It is also a good plan at this period to thoroughly inspect wire netting fences in rabbit-infested districts, so as to safeguard the trees from their entry and damage being effected dur-

**Fruit Shipments
United Kingdom
and the Continent**

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.

AND HOBART, TASMANIA
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

ing the winter months. Side lines and head lands can be cleared of any rubbish or scrub that is growing, and may form a harbor for pests, and a general clearance effected of those items that have had to be postponed during the busy periods.

TASMANIAN APPLE CROPS.

Mr. P. H. Thomas, State Fruit Expert, reports.—My estimate of the total production of Apples in this State this season is 2,600,000 bushels.

Owing to a number of later bookings having been received by the Shipping Companies, the total consignments exported overseas should now approximate 1,095,000 cases. Of this amount about 120,000 cases will be shipped to Continental Ports.

When making purchases of advertisers, please mention the "Fruit World."

Fruitgrowing in the Pacific, Fiji, Samoa and Hawaii

(The first of a series of articles by R. E. Boardman, Editor of the "Fruit World," who is on a tour abroad.)

HONOLULU, 6/5/27.

THUS FAR my trip has been very enjoyable, and I am looking forward to my duties ahead in inspecting the fruit and horticultural industries in U.S.A., and marketing conditions in England and the Continent.

At Suva, Fiji, we saw the luxuriant growth of vegetation—Bananas, Pine-apples, Cocoanuts, Papaws, Tangerines, etc., growing in wonderful profusion. The high quality of the Bananas was favorably commented on by the passengers on the "Sierra." We bought a bunch of huge Bananas, nine dozen on the bunch, for 2/-. There is a Pine-apple cannery operating now; increas-

Pacific." Here it is perpetual spring, bright clear sunshine, sufficient rainfall to keep the city and countryside a glorious green. Just now there is a blaze of Hybiscus, of which over 2,000 varieties are growing here. The chief products are Sugar and Pine-apples, of which I shall write more by next mail.

In this short preliminary article, however, I must state that I am impressed by the effective propaganda of the Americans, and the work of the fruitgrowers' associations in creating a "fruit conscience." Our ship, the s.s. "Sierra" is American: for breakfast ten different kinds of fruit are included as the first item

portance, and it can be done.

When away from Australia one is brought to realise the fact that our country is looked on as an integral whole, without much knowledge being generally available as to the division of the States. In fact, I am being continually asked if I know "Mr. So-and-So, of New Zealand," as though everyone knows each other "down South," and that New Zealand is a few hours sail from the mainland of Australia, instead of being as far distant as Honolulu is from California.

It is helpful for the time being to be able to take a detached view of Australia and to think in large terms of its major problems and possibilities. This is of value in obtaining a balanced view on the questions which the Commonwealth is facing, and of relating the more intimate details of a particular industry to the whole.

Mr. W. Cattanch, C.M.G., Chairman of the Victorian State Rivers



Horticulture in Fiji: Coconut Palm, Bread Fruit Tree, and Hibiscus, which shows its glowing colors everywhere around Suva.

ed attention is being paid to the dairying industry. Fiji is a crown colony. The residents elect some of the members of Parliament; others are appointed from the high officials, with a Governor appointed by the Colonial Office.

Our next stop was at Pago Pago, an American naval station on the island of Tutuila, Samoa. The Samoans are a fine race of people, very similar to the New Zealand Maories.

Honolulu is a wonderfully charming place, and the people are exceedingly hospitable. These are the "Isles of Friendliness," the "Paradise of the

(before porridge). For my part I had Grapefruit as the first item every day (apart from the Oranges and Apples which the steward brought to the cabin on our waking). Fresh fruit is served with every meal, and in addition to "afternoon tea"—mainly for Australian passengers—fresh fruit is taken to the cabins.

I shall have other comments to make on this subject later, but in the meantime I would like to suggest to growers in Australia and New Zealand, the outstanding importance of using their existing organisations to develop a "fruit conscience" among the people. This is of major im-

and Water Supply Commission, was a fellow passenger, he being a delegate to the Irrigation section of the Pan Pacific Conference. He is accompanied by Mrs. Cattanch. When the Conference is finished, they visit U.S.A., Canada and England. Whilst in Canada Mr. Cattanch will pay special attention to securing the best terms possible under the trade treaty for the larger exportation of dried and canned fruits from Australia to Canada.

What do we live for if not to make the world less difficult for each other?
—George Eliot.



Dried Fruit Department

DRIED FRUITS.

London Sales.

Advices received from the London agency of the Commonwealth Dried Fruits Control Board indicate that for the four weeks ended April 28, the following sales were recorded:—295 tons of Sultanas at an average price of £56/17/5 a ton; 20 tons of Lexias at an average price of £43/7/10 a ton; and two tons of Currants at £40/3/3 a ton. The total sales included 9,461 tons of Sultanas at an average of £66/18/- a ton; 8,097 tons of Currants at an average of £37/16/5, and 664 tons of Lexias at an average of £38/15/3.

While the demand for Sultanas is not as good as the Board had hoped, the sales for the last four weeks were greater than for the corresponding period of last year, when only 88 tons were sold.

The Chairman of the Board (Mr. Thomas) further stated that 70 tons of new season's Currants had been sold at an average price of £45/5/10 per ton. Some of the fruit brought up to 52/- per cwt.

The opening prices for Currants are considered satisfactory, and with the reduced quantity produced this year, the Board are hopeful that this average price will be maintained.

DRIED FRUITS IN JAPAN.

In a trade note on dried fruit in Japan the American Commercial Attache at Tokio, states that the use of dried fruit in Japan is growing from year to year, but owing to the unfamiliarity of the Japanese people with fruits other than Apricots, and, in a very few cases, Prunes, the market will probably grow only as their knowledge of the fruit increases. Retailers sell fruit in bulk, and little in small cartons. The importation of effort has been made to introduce it in small cartons is not practicable, not only for climatic reasons, but also because there would be a luxury tax of 100 per cent. ad valorem on fruits imported in such cartons.

N.S.W. DRIED FRUITS ACT, 1927.

Poll of Growers to be Taken.

The main provisions of the Dried Fruits Act 1927, New South Wales, will begin on a date to be appointed by the Governor and notified by proclamation in the New South Wales "Government Gazette." Such proclamation will not be made unless at a poll of growers to be held, at which seventy (70) per cent. of the growers record their votes, a majority of votes have been given in favor of the Act being brought into full operation.

"Grower" is defined by the Act as any person who, in the year ending on March 31 next preceding the taking of the poll, produced more than five hundredweights of dried fruits of any one of the following varieties, namely, Currants, Sultanas, or Lexias, from Grapes grown in New South Wales.

The New South Wales Water Conservation and Irrigation Commission has prepared a roll of growers for the year ending March 31, 1927. Claims for enrolment will not be received after June 1, subsequent to which a date for taking the poll will be announced. The poll will be conducted by postal vote.

GRUBS IN DRIED FRUITS.

Investigations by Dr. Myers.

The eminent British scientist, Dr. J. G. Myers, who has spent some time in Australia investigating for the Council for Scientific and Industrial Research the problem presented by the insect pests which infest our dried fruits and which have threatened irreparable damage to the industry, returned to England on the "Orama." During the voyage he will be granted facilities by the Orient Company to study the condition of a heavy cargo which is on board.

The Vice-President of the Executive Council (Senator G. Pearce) stated recently that there was every reason to feel satisfied at the prospects of attaining complete control of the grub pest, at any rate up to the point

of discharge of the cargo in England. Dr. Myers had carried out extensive observations which indicated that elaborate systems of fumigation of fruit would probably be unnecessary. Until he was able to study the condition on arrival of the cargo, with which he was travelling, it would be impossible to give a final decision, but it seemed probable that the solution of the problem would be found along the lines being followed this season in many of the packing-sheds.

Dr. Myers emphasised the fact that these lines had been laid down and adopted by a number of the packing-sheds on the advice of Mr. A. V. Lyon and other Commonwealth officers before his arrival, and that full credit for the measure of success attained should be given to the efforts of these officers and the packers.

An important point on which he had made most careful studies was the determination of whether or not infestation occurred on the drying racks. Despite close and extended scrutiny, he had failed to find a single pest moth on the racks, though there were numbers of harmless species. Attention, therefore, had to be focussed on conditions in the packing-sheds, in the containers and on board-ship.

Concrete floors, care in the disposal of waste fruit and general vigilance had meant that there was decidedly less moth infestation in the sheds this year than last. In addition, there was a much heavier pack, and for both reasons the proportion of infestation in the pack was much lower than usual. The cargo as shipped on the "Orama" was indeed very clean. Possibly heat sterilisation in the sheds might yet prove to be necessary. Dr. Myers would be in a position to determine this when he reached London.

It could, however, be taken as settled, that the way to eliminate the grub trouble in Australia was known, and its practical application was apparently not likely to be too costly or burdensome for the industry.

Dr. Myers' full report will not be available for some time.

KERB MARKETS AND DISTRIBUTION OF FRUIT.

(By Mr. J. W. Aspinall, Metropolitan Fruitgrowers' Association.)

During the course of the Victorian Fruitgrowers' Convention at Upper Beaconsfield, the question of local marketing was discussed, and the following instructive paper was read by Mr. J. W. Aspinall, Secretary of the Metropolitan section, who said:—

THE DISTRIBUTION OF FRUIT to bring producer and consumer in close touch with each other has been a live subject for many years. The Metropolitan and Districts Fruitgrowers' Association took the matter up in 1920, there being a very large crop of fruit, and growers were concerned to know how to dispose of same. The Association applied for permission from several of the working suburbs to open kerb markets, certain streets being set aside for that purpose. Strong opposition was encountered from vested interests. The reasons given were—unfair competition, shops having to pay high rents, against a small charge to growers. In no case was permission refused, although in one municipality a strong fight had to be put up.

To show how the scheme has worked, there are more shops to-day in the suburbs where markets have been established than there were a few years ago. Increase in population will account for that to some extent, but it shows there is room for all, both for the buyer who purchases by the

pound, and those who buy by the half case and case lots.

Fruit distribution, like all other primary products, is a matter of supply and demand. The present season has shown that supplies have to be secured in the other States to supply our needs (this refers more particularly to Apples), and with high prices ruling, consumption is limited.

The distribution of fruit and produce through kerb markets as carried on in many towns and cities of the old world, was looked upon as a nine days' wonder so far as the suburbs of Melbourne were concerned; but after being in operation for seven years, when over 200,000 cases of fruit, besides vegetables and dairy produce were disposed of, they have more than justified their existence, and, with the return of normal seasons, the volume of business will be greatly increased. Governments in the past have recognised the work carried on, and have given small grants on a £1 for £1 basis, which have helped very considerably.

Suburban Markets.

One of the objects the Metropolitan Association had in view in opening markets, was that they would be the forerunners of suburban markets being erected, and in one municipality that is being accomplished. Caulfield (where strong opposition was raised against kerb markets), according to the press of May 7, is building a market to cost £12,000, to be opened in August next. This is built on the latest American lines, with 88 stalls, which have mostly all been applied for. It is further reported that in America every town or city of any

note has its kerb markets, which have proved tremendous boons to consumer and producer alike.

Richmond, with two kerb markets, was amongst the first to adopt the principle of direct trading, and in the near future must consider the erecting of a building, as the number of producers and buyers attending is greatly increasing.

Direct trading

to be a success must cut out, as far as possible, overhead charges, and that is where the late State Fruit Marketing scheme of 18 months ago, failed. If fruit is worth say, 6/- per case, and it costs 4/- to distribute, there is only one ending—bankruptcy.

The advantages of supplying the public through kerb markets are many. Housewives are able to buy at wholesale rates at or near their own doors, saving the trouble and expense of travelling to the city. Also, small growers and many returned soldiers who have not been able in the past to secure a stall in the Victoria Market, can dispose of their produce in this way. In the glut season, when supplies have been overabundant in the Melbourne markets, they provide an outlet for the surplus, many growers availing themselves of these facilities. The municipalities charge a flat rate of 1/6 each vehicle at each market, whereas the City Council charge works out at 8d., so the growers are handicapped in that respect. Growers and buyers are also at the mercy of hot winds and snow storms, in not being under cover.

In the working suburbs of Melbourne there are wonderful opportunities for disposing of a great amount of fruit and produce. With 20 kerb markets operating weekly, disposing, at a low estimate, of 200 cases each, the distribution would amount to 16,000 cases a month, or for the five months of the peak period, 80,000 cases, which would materially help in regulating supply and demand.

The large inland towns and cities, with sound organisation, would also dispose of a large amount in truck lots. Single case lots are too expensive. The slogan, "Eat More Fruit," sounds and looks well printed on hoardings, but it does not work out very satisfactorily to the buyer.

In reply to a question, Mr. Aspinall stated that the demand for fruit at these markets was for the very best quality. There was a very limited market for smaller and blemished fruit. Fruit was sold by the case, half case, and quarter case.

Mr. Aspinall was thanked for his interesting address.

**Sell your Dried Fruit in the
Best Market**

J. YOUNGER

The Independent Dried Fruit Merchant

22 Market Street - - - Melbourne

Will buy your fruit outright, or will export on your behalf at a total Export Cost of £12/10/- average, and a Cash advance of two-thirds London Price.

Commonwealth quota purchased for Cash at Highest Current Rates. No commission. Bank reference and all particulars on application.

BUYER OF ALL EVAPORATED FRUITS

Western Australia

Seasonal Work in the Orchard : Fresh Fruit Exports : Crop Report.

SEASONABLE WORK FOR JUNE.

Pruning of all deciduous trees should be pushed on with during this month.

Planting may be undertaken wherever the soil is not too wet and sticky.

Young plants, when received from the nursery, should be heeled in carefully so as to prevent the roots from drying out. To do this effectively the bundles of ten, in which the nurserymen usually tie up the trees, should be opened and each tree placed separately in the soil. If this is done as soon as the trees arrive, no harm will result if the planting has to be postponed for some weeks in the months of June or July.

The notes on planting for this month refer to deciduous trees only. Citrus trees give best results if planted at the latter end of August or early in September.

Any San Jose scale infested orchards which have not received the first spraying mentioned in notes for May should be treated as early as possible this month.

Citrus growers should examine cracked Oranges for signs of fruit fly, and destroy any found to be infested.

The Orange export season commences this month, and this opportunity is taken again to stress the importance of handling the fruit most carefully when gathering, packing and loading. Bruised fruit and fruit with skin abrasions caused by finger nails will develop moulds and land in England in an unsaleable condition, a loss directly to the sender to the extent of the affected fruit, and indirectly, and probably a much greater loss in bear-

ing down the price of sound fruit offering on the same market.—G. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture."

EXPORT OF FRESH FRUITS FROM WESTERN AUSTRALIA, TO APRIL 5, 1927.

The Superintendent of Horticulture (Mr. G. W. Wickens), has issued a statement showing the quantities of fruit shipped from Western Australia to April 5, 1927. The following are the totals:—

Apples, 313,345 cases; Grapes, 26,850; Pears, 19,106½; Peaches, 144; Quinces, 82; Passion Fruit, 9; Oranges, 70; Plums, 412; Nectarines, 7.

The distribution was approximately as follows:—

Apples—United Kingdom, 156,500; Europe, 137,500; Java and Singapore, 14,000; Colombo, 3,650; Port Said, 1,500 cases.

Grapes—United Kingdom, 11,762; Near East, 10,226; Colombo, 4,862.

Pears—United Kingdom, 16,594; Near East, 19,105; Europe, 1,943.

Quinces—United Kingdom, 28; Near East, 54.

Plums—United Kingdom, 174; Near East, 238.

Peaches, Oranges and Nectarines—Total shipments to Near East; Passion Fruit to London.

FRUIT CROP REPORT TO END OF APRIL.

Good Prices Realised.

APPL E AND PEAR SHIPMENTS from this State finished up at the end of the month. Up to the present only a few returns have come to hand, but these show that the fruit is meeting with good demand overseas, both Apples and Pears realising satisfactory prices. The exception to this was the first two boats—the "Moldavia" and "Naldera," which left in February, taking small lots of Williams. These, in both instances, opened up in bad condition. Since then, however, later varieties of Pears shipped on various boats opened up in good condition, and in some instances brought phenomenal prices. Comice brought up to 24/- per tray; Winter Nelis up to 12/6 per tray, Josephines up to 10/- per tray, Marie Louise up to 10/- per tray, and Beurre Bosc up

to 11/- per tray. As it takes three trays to make the ordinary dump bushel case, the prices were particularly gratifying.

In addition to Apples and Pears, Grapes have been sent on all boats. Some of these brought very high prices. Gros Colman realised to 22/- per three-quarter bushel case, Wortley Hall, 20/-; and Flame Tokay, 17/-. These prices were for the fruit shipped on the earlier boats, but since then the Grapes sold in London realised only medium prices. Ohanez, to 16/- per three-quarter bushel case; Black Malaga, 13/6, and Wortley Hall, 16/-.

Fine weather for finishing off the balance of the dried fruit pack was experienced during practically the whole of the month. Vintage operations were finished, and in all districts good yields have been obtained with high sugar densities.—Department of Agriculture report.

FRUIT EXPORTS FROM ALBANY.

Albany is becoming an important outlet for the products of the Southern districts of W.A., and each year large quantities of fruit are shipped through that port.

The present export season ended with the departure of the "Barrabool" in April. The following were the total quantities shipped:—

Apples, 142,090 one-bushel cases; Pears, 8,054 half-bushel cases; Pears, 2,033 one-bushel cases; Pears 21,648 single trays (one-third of a bushel). Nine steamers participated in the trade and the volume of export was greater than ever before.

Perfect Freedom.

No one can be perfectly free till all are free; no one can be perfectly moral till all are moral; no one can be perfectly happy till all are happy.—Herbert Spencer.

**Brand Your
Fruit Cases and Bags**

with

**CALDWELL'S
STENCILLING
INKS**

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road
South Melbourne, Vic.

HAMBURG
(GERMANY).

Ph. Astheimer
And Sohn,

**Fruit Brokers . .
and Auctioneers**

(GERMANY)
Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

Interstate Citrus Conference.

Important Gathering in Melbourne.

A CONFERENCE of Citrus growers representing Victoria, South Australia, and New South Wales, met in Melbourne on May 3, proceedings being formally opened by the Minister for Markets and Migration (Mr. T. Paterson). A representative attendance of delegates was presided over by Mr. S. Brentnall (President V.C.C.A.), and visitors included Messrs. H. W. Gepp and J. S. Fowler (Development and Migration Commission); J. M. Ward, Superintendent of Horticulture; G. B. Tindale, Cool Storage Expert; and S. A. Cock, Citriculturist, Victoria; E. J. Mulvaney, Secretary Department of Markets and Migration; W. D. Bracher, Superintendent Refreshment Services, and W. L. Middleton, Victorian Railways. Apologies were received from the Minister for Agriculture (Mr. Bourchier), and Dr. Cameron.

In declaring the Conference open, Mr. Paterson said it was a sign of the times that every branch of primary production was becoming more and more organised. At the present time Australia was producing, in round figures something over three million bushels of Oranges and half a million bushels of Lemons per annum. While at the present time growers were able to dispose of practically the whole of their production within Australia, with a certain amount of export to New Zealand, the time was perhaps not far distant when year by year there would be an exportable surplus, and it was very necessary to look ahead and decide how to deal with this problem when it arose.

Small quantities had been sent to Great Britain with indifferent success. South Australia had been relatively successful in export, but other States had not. There was a great deal yet to learn with regard to Citrus fruit, both in cultivation, preparation for market, and the conditions under which it was carried before growers could feel assured that it would arrive in good condition at a port some 12,000 miles away. When in order to keep the local market sound, it was decided to export say 5 per cent. or 10 per cent., possibly at unprofitable prices, the only way to ensure that the burden would be spread over all was by thorough organisation.

The Commonwealth Government had asked the Council of Scientific and Industrial Research to go very fully into the problems of transport

and cold storage of Citrus. The Government had made available to the Council £250,000 to enable it to study such research problems, and it was also provided with an endowment of £100,000 to train young men in scientific work for future research work. Some little time ago the Council invited Dr. Kidd, of the Cambridge Low Temperature Research Station, to visit Australia and advise in regard to cool storage problems. At a recent conference with Dr. Kidd, suggestions were made for trial shipments of Citrus fruits on a commercial scale to be sent overseas, which it was hoped to test.

Continuing, Mr. Paterson said there was no doubt that during the last few years there had been a great change in the outlook of the British people in regard to the desirability of purchasing from within the Empire rather than from foreign sources. Australia gave British goods a solid monetary preference, and Great Britain was now reciprocating to some extent even on these lines. The advantage of the British preferential tariff last year to the Australian sugar growers was nearly one million sterling, to the dried fruits men, over £100,000; to the wine Grape growers and wine makers about £130,000, while the canned fruit growers got a small concession in a rebate on the sugar. Great Britain had decided to help us by other means, and had voted £1,000,000 yearly to be spent in educational propaganda for British and Dominion goods. The British Parliament had recently passed the Merchandise Marks Act to ensure that goods exposed for sale would be plainly labelled to indicate whether they were home-grown, Empire-grown, or foreign-grown, provided that the Dominion industry concerned desired to have such label attached.

Concluding, the Minister said his Department liked such Associations to co-operate with them. By working together they could educate the grower to send away only such stuff as would be a credit to Australia. He wished the Conference every success.

Mr. W. H. Gepp, Chairman of the Development and Migration Commission, apologised for the absence of a representative of the Council for Scientific and Industrial Research, and spoke also on their behalf, and assured Conference of the sincere desire of both bodies to assist Citrus growers in every way possible. They were working hand in hand with the De-

partment of Markets and the various State Departments of Agriculture. It was hoped that Dr. Kidd's work here would result in recommendations for a definite programme of research work over a number of years. There was much to be done in studying problems of fruit right from the soil, investigating the whole question of fertilising, the different forms of cultivation, pruning, etc., and their effect on export quality. We could not translate the solution of problems from the United States and say definitely they would apply here, as the conditions were different. There were good possibilities for growing Grapefruit in Australia, but growers must be careful to supply the varieties which the Americans had educated British people to eat.

Federal Citrus Council.

Dealing with the suggestion to form a Federal Citrus Exchange on the lines suggested by Mr. C. H. Katekar after his recent visit to California, Conference approved of the resolutions carried in January providing for the enlargement of the functions of the Federal Citrus Council to include representatives of the four Citrus-growing States, and control the Melbourne marketing operations and Market Representative.

Mr. J. A. Parkes (Secretary, Murray Citrus Growers' Co-op. Association Ltd.) supported the proposal, which he said had been unanimously adopted by South Australia.

Mr. H. G. Such (Manager, N.S.W. Central Citrus Association), said that while growers were cordially in sympathy with the proposals, they were quite satisfied with the present control of the Melbourne market. Of the 2,000,000 bushels of Citrus fruits produced in New South Wales, only about 200,000 bushels were controlled by the Association. It would be unnecessary expense for the organised growers of N.S.W. to take part in executive meetings held in Melbourne.

Proposed Export Research.

Mr. B. S. B. Cook (Sec. V.C.C.A.), reported that the Council of Scientific and Industrial Research, and the British Food Investigation Board, in conjunction with the Federal and State Governments, proposed to send 10,000 cases of Citrus fruits to London in one ship in each of the years 1927, 1928 and 1929, to enable export problems to be scientifically studied. It was first necessary to know if the fruit could be obtained. Growers were not prepared to supply it on the present guarantee of 6/- per case. South Australia had already decided to export this year, and would supply their quota of 2,500 cases if required.

Mr. Such (N.S.W.), supported the proposal, and said Griffith had promised 1,000 cases Navels, and Yenda 500 cases, conditionally on the fruit being sent not later than the end of June. Experience during the last five years had shown that shipment of Navels from N.S.W. after this date was disastrous.

Mr. McGregor (Shepparton), suggested that a good proportion of the fruit for shipment should be drawn from each district, to test the keeping qualities of fruit from such district.

Mr. A. Lee (Shepparton), was in favor of the Government purchasing the fruit outright. The Council wished to pick and pack the fruit in the orchard, and would naturally wish to take the best fruit from the best orchards in the district. They should be asked to pay for the fruit alone at Australian parity, and also to pay transport expenses.

Mr. Parkes (S.A.), pointed out that with a good crop throughout the whole of the Commonwealth, it would be necessary to export to clear the local market, and it was up to all growers to help in these experiments. With a reasonable guarantee of say 15/- from the Federal Government, and 5/- from the State Government, his Association would be prepared to take part.

Captain W. D. Halhed (Merbein), pointed out that owing to the light crops this year, there would probably be very little fruit left in most districts in August, when it was proposed to make the shipment. If growers could get good prices on the Melbourne market they would not be likely to supply for export. A resolution was carried approving of the scheme and pledging the Association's whole-hearted support of the effort

being made to solve export problems and establish markets abroad, growers promising to co-operate in the carrying out of the work. It was further decided that the Federal and State Governments should be asked to purchase the fruit outright, or alternatively, guarantee the growers against loss of out of pocket expenses to the extent of £1 per bushel and one-third case.

A resolution was also carried that the Federal guarantee of 6/- per case on ordinary commercial shipments was inadequate, and asking to have the guarantee restored to the original basis which covered all out of pocket expenses.

Freight on Cases.

The question of the freight on softwood cases in shooks as compared with hardwood cases in shooks was introduced by Capt. Halhed (Merbein), who stated that, owing to the lighter weight of softwood cases, growers were of the opinion that truckloads composed entirely of softwood cases should be charged a lower freight than trucks of hardwood cases.

In reply, Mr. W. L. Middleton (Railways Department), admitted that it looked like an anomaly to charge a higher rate for the softwood shoo than for the hardwood shoo, yet to charge the same rate for the full cases on their return journey. Freight charges on timber were based primarily on weight. The rate for hardwood was much cheaper than for softwood, due largely to being able to get a greater weight into the truck. Taking a 16-ton truck as a standard, with a haulage of say 100 miles, the freight on hardwood cases in shooks (carried at the "M" rate—one of the lowest), was 11/5 per ton for a minimum weight of 15 tons 4 cwt. in

the truck. They found that they could load 16 tons of hardwood shooks comfortably in a 16-ton truck. This load would make 2,240 cases, which worked out at .98d. per case freight.

Softwood cases in shooks were carried at a slightly higher rate, subject to a minimum of 10 tons load in a 16-ton truck. They could load comfortably 12 tons 4 cwt. in a 16-ton truck, which was carried over a distance of 100 miles at 16/10 per ton, a difference of 5/5 per ton on 100 miles between hardwood and softwood. The truckload of softwood shooks would make 2,733 cases, which meant 493 more cases out of the softwood material, running out at .9d. per case, or really a cheaper rate than the hardwood, notwithstanding the difference in weight. This was on a basis of hardwood cases weighing 16 lbs., and softwood cases, 10 lbs.

Regarding cases filled with fruit, tests had been made in several years to test the weights, and freight was now charged on an average weight of 40 cases to the ton, irrespective of the kind of wood. This was for Peaches, Pears, Lemons, Oranges, and Nectarines; other fruits weighed as follows:—Grapes and Plums, 38 cases to the ton; Apricots, 39; Apples and Cherries, 42; Quinces, 43; and Passion fruit, 56 to the ton. For Citrus fruits, softwood cases were used almost exclusively, but taking the fruit trade generally, about three times as many hardwood as softwood cases were used.

Several growers referred to the fact that trucks of shooks often arrived with quantities of water lying in the bottom, which added to the weight and deteriorated the lower layers of shooks. Mr. Middleton promised to take up the matter of making it com-



Fruchthof-Bremen

Fruchthandel Gesellschaft Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen

Established 1902

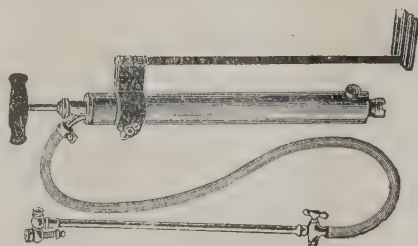
AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

Tasmania: Messrs. E. R. Cottier & Co., Hobart.



For applying
DI-INFECTANTS
LIMEWASH

WHITEWASH
WATER PAINTS
CREOSOTE, &c.,

and for
WASHING CARS
WINDOWS, &c.

Supplied, complete (as illustrated) with:—
3 ft. India Rubber Tubing.
22 inch Brass Lance and Tap.

Strongly and simply made.
Large Compression Cylinder.
Inlet fitted with Strainer.

This Pump can also be supplied fitted with an Agitator.

Self Clearing and Swivelling Nozzle.
Nozzle to throw straight jet of water.

No working parts of rubber.

Extra tubing, finer or coarser nozzle cap, and 20 inch extension lance can be supplied.

... The ... **VERMOREL BUCKET PUMP** is Worth a Trial

RETAIL PRICE AT HOME, 22/- COMPLETE

Ask your local merchant for particulars or write for Catalogue to

Cooper, Pegler & Co. Ltd., 24D Christopher Street, London, E.C.2

pulsory to cover all trucks of shooks. He was cordially thanked for his attendance and report.

Fumigation Plants.

A resolution submitted by Mr. J. P. Greenwood (Tresco), and seconded by Mr. A. R. Lawrence (Nyah) was carried, urging the State Government to expedite the provision of more fumigation plants and expert operators, and that the fumigating work be extended to districts on the New South Wales side of the Murray River.

Mr. Such (N.S.W.), stated that in some districts in that State, an alternative method had been found successful in a number of settlers combining to do the work. They purchased the tents between them, and did the work at times convenient to themselves. Last year 4,000 acres were completely cleaned up in this way, in one instance a party getting through 300 trees in one day.

Mr. A. J. Wood (Tongala), spoke appreciatively of the service rendered to growers by the Victorian Government fumigation, and particularly of the officers carrying out the work.

Mr. S. A. Cock (Citriculturist), stated that at the present time there were six outfits in Victoria of 30 sheets each, and 12 spares, making 192 sheets, and fumigation had been carried out in all the red-scale infected areas of the State in the last three years. This year probably 45,000 trees had been treated. There were two outfits at Mildura, two at Kerang, one at Shepparton, and one at Doncaster. This district was now completed, and it was hoped to move the outfit to the northern districts. Fumigation was directed mainly to the

control of red scale, as the brown and black scales could be controlled by spraying. The men carrying out the work took as much interest in it as if the trees belonged to them.

It was decided to ask other States to follow the example of the Victorian Railways Commissioners in placing Citrus fruits on sale at Railway stations.

Citrus Nurseries.

On the motion of Mr. Wood (Tongala), seconded by Mr. P. Cobbett (Bamawm), it was decided that Conference request the Government to re-establish the Government Citrus Nurseries in order that growers might be enabled to purchase correctly-budded stock true to type.

Various growers expressed the opinion that the planting of off-type trees had caused most of the troubles with which the industry was faced, and the importance of bud selection in the success of the Californian Citrus industry was emphasised. Mr. Cock stated that a Government Citrus nursery was started at Wagunyah in 1914, but was discontinued. The trees had been fine specimens, and no difficulty was found in raising or budding the sour Orange stock. If the nursery were re-established, it would be at least three years before trees would be available for planting.

Reference being made to the lack of facilities for studying frosts and other meteorological conditions, a resolution was carried asking that meteorological instruments be provided in the irrigation districts.

The importance of sub-soiling in various irrigation districts was referred to, and a resolution carried favoring arrangements being made

for subsoiling to be done by contract.

A resolution was carried at the instance of Mr. P. Rossiter (Ngawe), asking that the attention of the N.S.W. Government be drawn to the fact that nursery stock bearing fumigation certificates had been received in Victoria which proved to carry seven different varieties of live scale.

Mr. Rossiter also referred to damage done in his district by various oil sprays, and moved that this matter be brought to the notice of the Departments of Agriculture in the various States, asking that action be taken to as far as possible safeguard the interests of growers using such sprays.

Mr. J. M. Ward (Superintendent of Horticulture), stated that as far as Victoria was concerned, such an Act was in force, and had given every satisfaction.

Matters dealing with marketing operations and the levy were dealt with in Committee. During the Conference, an interesting paper on the cool storage of Citrus fruits was read by Mr. G. B. Tindale, Cool Storage Research officer of the Department of Agriculture, showing that it is quite practicable to cool-store Oranges for three months or over.

THE SPARROW PEST.

In an article on the value of birds in insect pest control, the "Florida Grower" refers to the English sparrow as destroying useful bird life, and says—"If England will take back this pest, we will wipe out the war debt."

(Continued from page 231.)

ticularly Apples, than any other State in Australia. In regard to the spores of the fungus, it has been found—not once, but many times—that the spores overwinter chiefly on the dead leaves on the ground, and not to any great extent on the tree. With Pears, the spores overwinter on the trees. Mr. Brittlebank, and, I think, Professor McAlpine have many times caught the spores floating in the air, on squares of glass that had been smeared with an adhesive material, and the Department has actual photographs of the glass containing the spores. About ten years ago, I had some plots in four different parts of Tasmania, where my Assistant and successor (Mr. P. H. Thomas), and myself personally applied the spray mixtures and picked the Apples and counted them for recording purposes. We used lime-sulphur, Bordeaux, and copper-soda mixtures. The best results were obtained by spraying at the delayed dormant stage (just before the buds burst), with Bordeaux at the rate of 6-4-40, followed with the same spray after the buds had burst, but actually before the petals opened. This was on Mr. Frank Walker's place at Lalla, Northern Tasmania. The variety was Pomme de Neige, and the disease very prevalent. Other plots were sprayed with various strengths of the same mixtures. In the test first mentioned we actually obtained 99 per cent. of clean fruit. The others varied.

"We used exactly the same materials at exactly the same period of growth at other places. Where we had 99 per cent. of clean fruit with Bordeaux at Lalla, we had about 66 per cent. at Cygnet. Our best results at Cygnet were obtained by using lime sulphur at a similar period. At the State Orchard, at Deloraine, we had particularly good results, something like 90-95 per cent. clean fruit, with the Bordeaux. On another part of the Huon the best results were from lime sulphur. Similar results have been obtained since. In Victoria some years ago experiments were conducted by Mr. Brittlebank and Mr. Pilloud in the Pakenham district, by using lime sulphur at the rate of 1-15, applied when about 80 per cent. of the blossom was open, followed up by a second spraying just as the petals were falling, at the rate of 1-30. I visited the orchards, and have never seen better results over such large areas than with these sprays. Growers in other parts of the State should not use this spray on the whole of the orchard until it has first been tested on a few trees. It would not be advisable, for instance, to use this spray at the strength mentioned, at Harcourt. We can control black spot by either Bordeaux or lime sulphur.

It is the time of application which is the secret of success."

Mr. J. J. Ahern (Pakenham), confirmed this experience, stating that he and other growers had sprayed with lime-sulphur 1-15 when the blossoms of Jonathan and other trees were absolutely full out, and at about 1-30 about a fortnight later. There was no sign of burning of any description, and they had absolutely clean fruit. Growers were perfectly satisfied that the spray would control black spot, but he personally was not satisfied with the resulting crop; he might have had a heavier crop if he had used other sprays. He intended to make tests.

In reply to a question as to why lime-sulphur spray would burn on some days and not on others, Mr. Ward said that at Lalla they mixed the spray material with water from a dam and sprayed one or two trees, which were burned very much. "We had the water analysed, and there was a good deal of iron in it. The trees were sprayed at the pink stage and later, and the spray burned both foliage and blossoms. With rain water we never had any burning. In 1917, we had many complaints from growers, particularly in Northern Tasmania, in regard to burning from lime sulphur, and we tried it out at various strengths, 1-40, 1-50, and up to 1-100. The trees were in full foliage. We tried to burn them and could not. I think it is a matter of atmospheric conditions, or the water. There are so many factors that it is hard to say just what is the cause."

Mr. Thiele expressed the opinion that growers ran a great risk by spraying into the blossoms with lime sulphur, as it might damage the pollen and reduce the crop considerably.

Mr. Grant was accorded the thanks of Conference for opening up this important subject, and for the interesting information supplied.

Recent Average Yields.

In this connection it is interesting to note that official figures give the average production of Apples per acre over a number of years for the whole of the State as under. They apply to good, bad, and indifferent orchards of full-bearing age. Returns are not obtainable prior to 1907-8:—

Year.	Yield per tree. Bushels.	Yield per acre (108 trees to the acre).	
		Bushels.	Bushels.
1907-8	.53		57.24
1910-11	1.15		124.20
1913-14	1.03		111.24
1916-17	.34		36.72
1919-20	1.10		118.8
1922-23	.91		98.28
1925-26	.90		97.20

MARGETSON & CO. LTD.

Fruit Importers &
Salesmen

30 James St. and James
St. Warehouses,
11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House
9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand.
London, W.C.

Shipping Nos.
431 and 432

Excellent Orchard Property FOR SALE LEASE or LET ON SHARE SYSTEM

30 Acres, planted and bearing, mixed fruits, including 10 acres of Figs (which realised £23 per ton last season).

The property is situated ½ mile from the Barnawatha Railway Station.

Good Dwelling and outbuildings on property, permanent water supply.

A GENUINE PROPOSITION.

Inspection can be arranged on application to

Secretary,
Fruit World Pty. Ltd.,
Bank House, Bank Place,
Melbourne.

Victoria

Export of Grapes :: Fruit Crops Report :: General News

EXPERIMENTAL SHIPMENTS OF GRAPES TO VANCOUVER AND NEW YORK.

By the s.s. "Aorangi," which left Sydney on May 5 for Vancouver, the Victorian Department of Agriculture shipped 75 cases of Grapes by arrangement with Mr. W. Cattnach, Chairman of the State Rivers and Water Supply Commission, Victoria, who is at present on a mission to Canada and the United States of America.

The Grapes consisted of 63 cases of the Ohanez variety, packed in a single layer in cork, each case containing 17 lbs. Grapes and 3 lbs. cork; two cases of the Purple Cornichon variety packed in a similar manner, each case containing 15 lbs. Grapes and 3½ lbs. cork; and 10 cases Ohanez, packed in a single layer, wrapped in sulphite tissue paper in wood wool, each case containing 13 lbs. Grapes. The inside

A further consignment of some 50 cases, forwarded to the Commissioner for Australia at New York, by the s.s. "Canadian Scottish," which left Melbourne on May 14.

The object of these trial shipments is to test these markets for Victorian Grapes, and, if the carriage and prices to be obtained are satisfactory, to encourage the export of our Grapes to Canada and U.S.A.

FRUIT CROP REPORT TO END OF APRIL, 1927.

The Superintendent of Horticulture reports:—

Deciduous Fruit.

All deciduous fruits, with the exception of a few varieties of late Apples, have been harvested. The bulk of the crop has been disposed of at excellent prices. The quantity of fruit held by growers is approximately 5 per cent. of that usually held at this time of the year.

Owing to the abnormally dry season, harvesting has been earlier than usual.

All deciduous trees which carried a light crop of fruit (and this applies to most of them) are showing well for a good crop next season. The buds are maturing well, despite adverse weather conditions. In the case of debilitated trees, early autumn rains were required to properly develop the fruit buds.

Large imports of Apples have been made from Tasmania. This fruit is very free from blemish, and is of prime quality. The quantity of Victorian Apples held in cool storage is much below normal, and importations from Tasmania were required to supply local orders. The export of fruit overseas this season was only about 1.5 per cent. of the previous year.

Passion vines bore a fine first crop, and owing to the favorable season the vines and fruit are very free from fungus diseases.

Viticulture.

The vintage is now almost completed. It has been conducted under almost ideal conditions throughout. Scarcely any rain has fallen, but during the last few weeks the nights have been rather cold.

As regards earliness, the season is a normal one; the Grapes did not ripen as soon as was expected at Xmas time.

Though premature to accurately estimate the yield, the 1927 vintage seems to be the best since 1924.

The Sultana pack should constitute a record. Though the crop is not quite so heavy as in 1924, the area in bearing is larger. The quality of the dried fruit is excellent, as might be expected in such a favourable drying season. In many cases the sugar content was not up to expectations, and the yield of dried Grapes did not weigh out quite as well as was expected. This is curious, after so warm a summer. Many excellent samples have been turned out, and the average quality is unusually high. The multiplicity of color types is rather regrettable—greater uniformity in this direction is desirable.

The yield of Currants and Lexias seems to be much the same as last year's. Though many excellent samples have been dried, imperfect maturity has impaired the color of a good many Currant samples. The quality of the Lexias is probably the best on record. Muscatels and Walthams are also excellent, the yield being similar to last year's. In the wine vineyards of the North-East, the vintage has been a satisfactory one—the best, in fact, since 1924. Though the dryness and heat of January and

Bankers:
COMMERCIAL BANK OF AUSTRALIA,

Collins Street, Melbourne.

Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL

Consign your Fruit to

FRUITGROWERS DEPOT

(Licensed and Registered by the Government of Victoria).

Managing Director—M. J. FOY.

Wholesale Fruit and
Produce Commission Agents

Importers and Exporters of Interstate Fruit

471 Flinders Lane, Melbourne

TELEPHONE F 1392.

Telegrams: FRUITGROWERS,
471 Flinders Lane, Melbourne.

measurements of the cases were 26½ inches by 13½ inches by 4½ inches deep.

The Grapes were obtained from the Shepparton Irrigation Area, and with the co-operation of the Railways Department were railed from Shepparton to Sydney on April 29, to connect with the "Aorangi."

The fruit was packed by officers of the Horticultural Division, every care being exercised in the selection and packing. Science Branch officers of the Department arranged for the treatment of the cork before it was placed in the cases, to ensure freedom from fungus diseases.

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

February caused much anxiety, especially on the hill sides, the vines have, on the whole, stood the ordeal remarkably well.

The quality generally is of a high order, even if the sugar strengths have not in all cases been up to expectation. The ripening of the Grapes has been somewhat erratic, some sorts sugaring up well whilst others are disappointing.

The wine industry is much heartened by the renewal of the wine bounty, even though at a somewhat reduced rate, and by the increased preference extended to Empire wines in London.

Citrus.

The Orange crop is now beginning

to color at Mildura, but fruit cannot be marketed until fully colored, in accordance with the regulations under the Fruit Act.

Navel Oranges are splitting in some districts, but complaints as to this defect in this variety are not so general as is usual at this period of the year.

The summer Lemon crop is still being harvested at Doncaster. This crop has been exceptionally heavy this year, and, although prices have now dropped to 12/- to 14/- per case, a very profitable season has been experienced by Lemon growers.

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and
economical on the market —
We manufacture a complete range
— of Sprays for the Orchardist —
including Arsenate of Lead (paste
and powder), Lime Sulphur, Red
Spraying Oil, Copper Soda Mixture,
Benzole Emulsion, Spray Spreader
etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES
Manufacturing Chemists
6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

APPLE AND PEAR GROWERS' ASSOCIATION OF VICTORIA.

The first Annual Meeting of the Apple and Pear Growers' Association of Victoria was held at Beaconsfield Upper, on May 10, there being a fair attendance of delegates. The annual report was presented by the President (Mr. J. H. Lang), who stated that the response by Associations in the matter of affiliation had not been as satisfactory as could be desired, but

nevertheless good work had been done.

The season was one of the worst on record, the Apple and Pear crop being reduced to about 15 per cent. of that anticipated. The State Government had agreed to make relief advances to those suffering losses, and the Committee had been able to secure more satisfactory conditions of repayment. Efforts were also made to secure all the benefits of bulk loading in fruit consigned to the Brisbane market. Mr. D. G. Wills was appointed to receive and distribute consignments of fruit, and loading days were fixed for the various districts. Though all the savings anticipated were not affected, the scheme proved advantageous to the growers.

Growers would shortly be asked to vote on the "Fresh Fruit Overseas Marketing Act" recently passed by the Federal Government. Other subjects such as export, fruit cases, pest control, Apple imports, grading regulations, markets, etc., had also been watched by the Committee.

Owing to his absence on a tour abroad, Mr. Boardman had resigned the Secretaryship, and Mr. W. H. Carne had been appointed.

The meeting then discussed the question of finance and general items.

The following officers were elected:—President, Mr. J. H. Lang (Harcourt); Vice-President, Mr. J. W. Bailey (Narre Warren); Committee, Messrs. C. P. Hurditch (Beaconsfield), W. H. Carne (Pakenham), F. Thomas (Bunyip), H. O. Willoughby (Tyabb), C. P. Nobelius (Drouin).

THE PRICE OF APPLES.

(To the Editor.)

Sir,—At a meeting of the Melbourne and Metropolitan Retail Fruiterers, held in the Temperance Hall, Melbourne, on May 5, the following resolution was unanimously adopted:—"That we enter our emphatic protest against the reported remarks made by Mr. Lang, of Harcourt, who at the meeting of the Associated Apple and Pear Growers, stated that Jonathan Apples only brought 10/- per case, and were retailed at 8d. per lb. Mr. Lang must have known this was not true, as Apples this year have been very dear, Jonathan Apples of any quality have not been bought under 14/- to 17/- per case. We also refute his statement regarding the profit and wastage.—Yours, etc.,

ALBERT E. WILLIAMS, Sec.
Melbourne and Metropolitan Retail
Fruiterers' Association, May 7.

At the Fruitgrowers' Conference at Upper Beaconsfield recently, Mr. Lang publicly stated that he had been mis-

reported, he had stated that the Apples were bought at 14/- per case (not 10/-). He maintained that his statement as to excess profits was still justified.

N.S.W. FRUIT CROPS.

Mr. E. D. Butler, Officer in charge of Exports and Imports, Department of Agriculture, advises that the Apple crops this season were very light, and only a few small consignments were exported.

The orchard inspectors report from all districts that the citrus crops will be light this season.

'Phone Central 8479

F. W. Vear

Fruit Importer
and Exporter

COMMISSION AGENT

49 WILLIAM ST.,
MELBOURNE, VIC.

Solicits consignments of APPLES,
ORANGES, BANANAS, PINES and
all other fruits.

Account sales with cheque daily.

COVENT GARDEN,
LONDON

Ridley, Houlding & CO.,

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt

account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

C. J. Goodman's Nurseries, Bairnsdale, Victoria.—1927 Catalogue of Trees—Deciduous and Citrus fruits, small fruits, ornamentals, and nuts, with hints on planting, cultivation, pruning, etc. Special reference is made to a new Peach, Palora Cling ("Peach of Gold"), said to be a heavy cropper and of very fine canning quality, ripening 25 days ahead of Phillips. Other new Peaches include Peak Cling and Selma Cling.

The Fruit Trade

Market Reports and News Items

BRITISH AND CONTINENTAL MARKETS.

Australasian Fruit Sales.

London (4/5/27).

Prices realised at the London sales of Australian fruit are as follow:—Tas. Apples, ex "Runic," New Yorks, 12/6 to 13/6 a case; Cox's, 10/- to 13/-; Alexanders and Ribstons, 9/- to 9/3; Jons., 9/3 to 13/6; ex "Berwickshire," W.A. Apples, 9/3 to 15/-; Cleos., 14/- to 17/-; Dunns, 12/6 to 16/-; W.A. Dunns, ex "Largs Bay," 15/- to 16/-; Cleos., 16/- to 17/-; Statesman, 12/6; Demo., 14/-; Romes, 14/-.

Shipments from New Zealand by the "Pakeha," Jons., 14/- to 16/-; Cox's, 20/- to 26/-; London, 13/- to 15/6; Adams and Alfristons, 14/-; Statesman, 15/- to 16/-; Cleos., 16/6 to 17/- a case.

London (11/5/27).

The demand for Apples and Pears continues good. Tasmanian fruit, ex "Berwickshire," sold as follow:—Cleo. Apples, 11/- to 15/-; Pears, half case, Beurre Bosc, 7/9 to 8/-; cases, 21/- to 25/-; ex "Cathay," Winter Nelis, half cases, 9/- to 11/-; Vicar of Winkfield, 5/6 to 6/-; trays, Beurre Bosc, 7/9 to 9/-; Doyenne du Comice, 14/- to 16/-; W.A. Apples, ex "Balranald sold as follow:—Cleos., 14/6 to 17/6; Cox's, 14/6; Dunn's, 13/6 to 16/6; Jons., 11/6 to 15/6; Victorian Jonathans were rather immature, and sold at 9/9 to 13/-. Of the West Australian fruit, ex "Cathay," Jonathans realised 12/- to 14/6; Cleopatra, 16/- to 18/-; Dunn's Seedling, 15/-.

London (13/5/27).

The demand is good for the Tasmanian Apples brought by the "Cathay." Prices:—Adams', 11/- to 12/-; New Yorks, 14/- to 15/-; Scarlets, 11/6 to 12/6; Cox's, 15/- to 17/-; Sturmers, 13/6; A.L.X., 10/6.

London (16/5/27).

Victorian Apples, ex "Cathay," sold as follows:—Rokewoods and Statesman, 12/- to 13/6 a case; Romes, 12/- to 13/-; the "Kent's" and "Euripides'" Tasmanian Cox's, brought 12/- to 22/-; Jons., 12/- to 14/-; Ribstons, 9/6 to 14/-; Cleos., 13/- to 16/-; Scarlet, 12/- to 13/6; Crow's Egg, 12/6 to 13/6; Munroe's, 13/6 to 14/-.

The "Oronsay's" fruit sold at the following rates:—W.A. Ben Davis, 12/6; Democrat, 15/-; Cleos., 14/- to 17/6. The "Hobson's Bay's" W.A. fruit sold as follows:—Pears, Winter Nelis, cases, 19/- to 26/-; half cases, 14/- to 15/-; trays, 6/3 to 9/-; Broom Park, half cases, 9/6 to 13/-; Josephine Des Malines, cases, 24/-; half cases, 12/- to 15/-; trays, 7/9 to 9/-; Glou Morceau, half cases, 8/- to 10/-; trays, 6/6 to 7/3; Grapes, three-quarter cases, Ohanez, 17/-; Black Malaga, 12/6.

London (19/5/27).

Apples are firm. The "Oronsay's" shipment of Tasmanian Apples sold as follows:—Adam's, 13/- to 15/- a case; Sturmers, 12/6 to 16/6; Cleos., 12/- to 16/6; Cox's, 11/6 to 21/-; Scarlets, 12/6 to 15/6. The "Hobson's Bay's" W.A. Dunn's, 15/6 to 16/-; Jons., 14/6 to 15/6; Romes, 15/- to 15/6; Delicious, 14/- to 15/-; Cleos., 16/6 to 18/-.

Some 8,500 cases of the "Tamaroa's" shipment of New Zealand Apples were sent by rail to Covent Garden from Southampton, and sold at the following prices:—Jonathans, Dunn's and Statesman, 16/- to 17/-; London Pippins, 14/- to 15/- Rome Beauty, 15/- to 16/-; Delicious, 14/- to 16/-.

London (20/5/27).

The "Maimoa's" New Zealand Apples sold as under:—Jonathans and Worcesters, 15/- to 17/-; Cox's, 25/- to 35/-; a few, 40/-, Rome Beauties and Dunns, 15/- to 16/6; Statesman, 15/6 to 17/6; others, 14/- to 16/6. The "Tamaroa's" Pears realised the following prices (bundles):—Josephine, 19/6 to 22/-; Winter Cole, 14/- to 15/-; Vicars, 10/6; Winter Nelis, 18/- to 21/-.

London (23/5/27).

The Apple market is firm. The "Berrima's" W.A. fruit sold as follows:—Cleos., 15/- to 17/6 a case; Jons., 12/6 to 17/-; Romes, 14/-; Dunn's, 13/- to 17/6; Rokewood, 20/-; Esopus, 15/-; Tas. New Yorks realised 15/- to 15/6; Scarlet, 14/6 to 15/-; others, 13/6 to 14/6.

Pears are in good demand. The "Hororata's" and the "Maimoa's" fruit sold as follow:—Trays, Winter Nelis, 6/6 to 7/6; Josephine des Malines, 6/6 to 8/-; Winter Cole, 4/-

to 5/-; Vicar of Winkfield, 3/6. The "Berrima's" W.A. Pears were rather over-ripe. Cases, Winter Nelis, realised 20/-; Keiffers, 14/-; trays, Josephine des Malines, 8/- to 10/-.

London (25/5/27).

The "Mooltan's" shipment of Tasmanian Apples sold as follow:—New Yorks, 13/6 to 15/- a case; Sturmers, 14/6 to 17/-; Scarlet, 14/6 to 15/-; Crow's Egg, 13/- to 15/6; and others, 13/- to 14/- The "Asphalion's" fruit realised about 1/- a case less. Tasmanian Pears from the "Mooltan" and "Ceramic" brought the following rates:—Trays, Winter Nelis, 6/- to 9/-; Glou Morceau, 5/6 to 9/-; Vicar of Winkfield, 4/- to 4/9; Josephine des Malines, 9/-; Beurre Easter, 5/- to 6/-; Doyenne du Comice, 8/3 to 13/-; Cases, Keiffers, 21/- to 24/-; Beurre Easter, 17/- to 22/-; Vicar of Winkfield, 15/6 to 17/-.

Liverpool (13/5/27).

Tasmanian Apples, ex "Runic," realised:—Cleos., 15/3 to 19/9; Alfristons, 10/6 to 14/6; Jons., 12/- to 16/9.

Liverpool (19/5/27).

The "Euripides" shipment of Tasmanian Apples sold at the following rates, Cleos., 13/9 to 17/9 a case; Cox's, 11/9 to 16/3; Jons., 13/- to 16/9; Sturmers, 12/- to 13/6; Ribston, 11/- to 12/-; French Crab, 12/- to 14/-; Pears, Beurre Boscs, cases, 16/- to 18/-; trays, 7/3 to 7/9; Beurre Clairgeau, cases, 10/6 to 13/9; trays, 5/- to 11/-; Vicar of Winkfield, cases, 8/- to 12/- trays, 3/- to 3/6.

Liverpool (20/5/27).

The New Zealand Apples shipped by the steamer "Tasmania" are generally good, though the Cox's are somewhat over-ripe. Prices:—Dunn's, 14/9 to 17/-; Cleos., 15/- to 17/9; Cox's, 13/- to 17/9; Jons., 13/6 to 17/3; Delicious, 13/- to 15/6; Adam's, 12/6 to 14/3; King David, 11/9 to 13/3.

Liverpool (25/5/27).

Shipments of Tasmanian Apples by the steamers "Nestor" and "Asphalion" sold as follow:—New Yorks, 12/6 to 16/6 a case; Jons., 12/- to 15/6; Sturmers, 11/3 to 12/6; Alfristons, 12/- to 14/6; Crab Apples, 11/9 to 13/6; and other descriptions, 11/- to 13/- a case.

Glasgow (24/5/27).

Sales of New Zealand Apples shipped by the steamer "Tasmania" have been made as follow:—Cox's, 13/- to 18/- a case; Dunn's and Jons.,

12/- to 15/-; Delicious, 13/- to 14/6; others, 11/- to 13/-.

Hamburg (23/5/27).

The steamer "Kent's" Apples realised the following rates:—W.A. Cleos, 15/6 to 23/8; Dunn's, 16/6 to 20/9; Jons., 13/9 to 18/3; Tas. Cleos., 14/6 to 17/-; Munro's, 12/6 to 15/6; Jons., 13/6 to 15/6; Cox's, 15/6 to 17/6; Pears, cases, Vicar of Winkfield, 21/6; Winter Nelis, 27/-; Josephine des Malines, 36/6; Winter Bartlett, 39/6.

AUSTRALASIAN MARKETS.

New Zealand.

Dunedin (20/5/27).

Messrs. Reilly's Central Produce Mart reported on April 29:—Our first consignment of Victorian Ohanez Grapes reached us in perfect condition, and realised 10d. to 1/- per lb.; 20/- to 22/6 per half case; Oamarus, 1/4 to 1/7; Gros Colmans, 2/6.

On May 13 they reported receiving 650 cases of American fruits per "Tahiti," Lemons selling from 37/6 to 42/-; Oranges, Valencias, from 37/- to 41/-; Grape Fruit, 36/6 to 38/6; Messina Oranges, ovals, 38/-; Mountain brand, 34/-; Messina Lemons, 40/-; Australian Grapes, Ohanez, 18/-, 20/-, and 22/6 per case of 25/- lbs.; local Grapes, Hamburgs, made to 1/8; Gros Colmans, to 2/6 per lb.

Choice dessert Pears are in demand, realising from 3d. to 4d. per lb.; local new season's hot-house Tomatoes, realised 1/6 to 1/9 per lb; N.Z. Passions sold at 10/- to 12/- per half case; Australian Pie Melons realised 18/- cwt.

Otago Central and Nelson Apples, Delicious, realised to 11/9; Cox's, to 12/-; Jonathans, to 9/6; Romes, Statesman, Lord Wolseleys and Alfristons, to 7/-; Poorman Oranges, 14/-; Sydney Loquats, 12/6; Persimmons, choice, 14/- per half box. We anticipate fair quantities of Navel Oranges arriving from Melbourne, shipments possibly commencing in July.

On May 20 Reilly's report:—American fruits arrived in perfect condition. Lemons are selling from 37/- to 42/-; Valencia Oranges, 37/- to 41/-; Grape Fruit, to 36/-; Messina Lemons, 40/- for 350's; Australian Grapes, Ohanez, 16/6 to 20/-; Local Grapes, Hamburgs, 1/8; and Gros Colmans, 2/6 per lb.; Adelaide Navel Orange, Gins, 22/6; Commons, 18/-; Mandarins, choice Gins, to 23/-; Sydney Lemons, 16/- per case; Murray River Navels, 24/-; Berri Navels, 25/-; Grape Fruit, 18/-; Berri Man-

darins, 27/6; Lemons, 21/-. The Apple and Pear market is unchanged, Pineapples are wanted and worth 27/- to 30/- for choice quality; Loquats to 12/6, and Persimmons to 14/- per case; Pie Melons, 18/- per cwt.

New South Wales.

Sydney (23/5/27).

Mr. F. Chilton, City Fruit Markets, reports:—

Queensland Fruits.—Bananas, 16/- to 27/- per case; Pines, smoothleaf, 14/- to 21/-; Tomatoes (North), 4/- to 10/- per half case.

New South Wales Fruits.—Bananas, 14/- to 28/- per case; Lemons, 6/- to 10/- per bushel case; Oranges, 5/- to 10/-; Navels, 8/- to 12/-; Mandarins, 7/- to 13/-; Apples, G.S., 14/- to 18/-; Passions, 6/- to 12/- per half case; Persimmons, 3/- to 5/-; Grapes, Cornichon, 7/- to 11/-; Ohanez, 5/- to 8/-; Tomatoes, 4/- to 10/-.

Victorian Fruits.—Pears, Howell, 10/- to 13/- per bushel case.

Tasmanian Fruits.—Apples, Jon., 12/- to 15/- per bushel case; F.C., 11/- to 13/-; S.P.M., 10/- to 13/-; Geeveston Fanny, 11/- to 14/-; T.P., 11/- to 14/-; N.Y.P., 10/- to 13/-; Pears, W.N., 4/- to 7/- per half case; W.C., 4/- to 7/-; Nap., 3/- to 4/-; G.M., 4/- to 6/6; Jos., 6/- to 8/-.

During the past few weeks supplies of fruit have only been moderate, and prices have been well maintained. Citrus fruits are now, however, coming forward more freely and easing in values, especially Mandarins and Lemons. Pineapples of the winter crop are also just coming on the market and prices for that fruit will be lower than for some weeks past.

Victoria.

Melbourne (25/5/27).

The following were the ruling wholesale quotations at the Western Market:—Apples, good to choice eating, 13/- to 15/-; good to choice cooking, 10/- to 12/-; Tasmanian, 9/- to 16/-; Bananas, Queensland, spec., 20/- to 24/-; do., choice, 16/- to 20/-; do., standard, 12/- to 16/-; Grapes, Muscatels, 8/- to 10/-; spec., 12/- to 14/-; Doradillo, 6/- to 7/-; Waltham, 8/- to 10/-; spec., 11/- to 12/-; Ohanez, 8/- to 9/-; Lemons, Victoria, 9/- to 10/-; Mandarins, N.S.W., 13/- to 14/-; Queensland, 14/- to 15/-; Oranges, Victorian, 10/- to 11/-; N.S.W., 7/- to 9/-; Queensland, 8/- to 9/-; Navel Oranges, Murray districts, Victoria, 10/- to 12/-; Murray district, South Australia, 13/- to 14/-; Passion Fruit, Victorian, 13/- to 15/-; Pineapples, Queens, 20/- to 24/-; small, 15/- to 17/-; Tomatoes, 7/- to 8/-.

Western Australia.

Perth (14/5/27).

The following prices ruled:—

Apples, Jonathan, prime, dumps, 8/- to 11/6 (special to 13/6); others, 4/- to 7/-; flats, 3/- to 7/-; Granny Smiths, dumps, 8/- to 10/6 (special, 11/6); Cleopatras, prime, dumps, 6/6 to 9/-; flats, 4/- to 6/-; Pears, dumps, 6/- to 10/- (special, to 12/3); Lemons, flats, 3/- to 7/-.

Tasmania.

Hobart (17/5/27).

S.P.M., good, 8/9 to 9/9 per case; inferior, 3/- to 4/6; F.C., good, 8/3 to 9/6; fair, 7/6; inferior, 4/6; S.T.P., fair, 7/6; medium, 5/-; B.O., fair, 5/-; Del., inferior, 4/6; Dem., hail marked, 8/9; fair, 8/- to 8/9; inferior, 6/3; Jon., medium, 6/-; inferior, 3/6; R.B., choice, 8/6 to 9/3; F.C.P., fair, 5/6; Pears, W.N., very fair, 3/6 to 3/9 per half case; W.C., fair, 2/9 per case.

Queensland.

Brisbane (20/5/27).

Lemons, prime, 3/- to 4/-; others 2/- to 2/6; Limes, 2/- to 4/-; Pineapples, smoothleaf, 7/- to 12/- a case, 3/- to 9/- a dozen; rough, 3/- to 9/- a dozen, 10/- to 15/- a case; Passion Fruit, 4/6 to 9/-; Papaws, 2/6 to 7/6; Mandarins, 10/- to 17/-; Custard Apples, 1/- to 3/6; Oranges, 6/- to 10/6; Navel Oranges, 10/- to 13/-; Rosellas, 3/6 to 4/6.

South Australia.

Adelaide (21/5/27).

Apples, eating, 14/- to 16/- per case; do., cooking, 12/- to 13/-; Bananas, 30/- to 33/-; Lemons, 10/-; Melons, Pie, 5/- to 6/- per cwt.; Almonds, 1/- to 1/3 per dozen lb.; Brazil Nuts, 14/-; Peanuts, 10/6; Walnuts, 12/-; Barcelona, 13/-; Oranges, Murray Navel, 14/- to 15/- per case; Passion Fruit, 20/- to 22/-; Pears, eating, 12/- to 16/-; cooking, 8/- to 9/-; Pineapples, 20/- to 25/-; Strawberries, 1/3 per dozen lb.

AUSTRALIAN APPLES IN GERMANY.

The London "Daily Express," on May 25, referring to the fact that Australian Apples sold to Germany are realising 8d. a lb. more than those sold in England, and that large quantities are being taken from England by German traders, suggests that the famous Australian slogan, "Eat Empire Fruit" should be modified to read "Eat Empire Fruit at German prices."

QUEENSLAND NOTES.

(By Our Correspondent.)

FOLLOWING upon an almost continuous deluge of rain during the earlier part of the year, conditions have become more congenial and cultural and marketing operations conducted with less discomfort. One result of continued moisture has been the general presence of fungi, *Sphaerostilbe cocophila* and *Ophionectra coccicola* attacking the scale insects upon Citrus trees. The former, which is in many instances almost cleaning up the red scale, is frequently mistaken for a form of rust on the branches, and the latter is taken for a harmless fungi and its effect upon scales, particularly mussel, passes unnoticed.

The use of copper compounds against injurious disease unfortunately destroys also our fungoid friends, and it is suggested that more attention could profitably be applied in determining what varieties of Citrus are the least subject to attack of fungi in different districts or under varied conditions. It is known that the Emperor Mandarin is entirely free from "scab" in the Howard, Gaynach, and Byfield districts, whilst in others its inclusion is almost unprofitable on account of susceptibility to the disease, as is also that of the Glen Retreat. Under fair conditions in the northern areas all varieties are practically immune.

New Oranges.

A few months since, reference was made to an exceptionally promising sport of Valencia Orange, which brought forth official enquiry from Washington for bud wood, which the owner advises having supplied. Excepting a few trees in the original orchard, the variety has not been available for propagation locally.

Another exceptionally fine Queensland production is the Byfield seedless Orange (in which seeds are entirely absent), and it is understood that this also is being sent to Washington, where it will most certainly be much more appreciated than in the Commonwealth, where it is almost entirely unknown.

The local Citrus crop

is sadly deficient in quantity, and not extravagant in quality, the prolonged drought having very seriously affected this season's crop. The trees, however, show wonderful recovery, and will not be seriously affected by the temporary setback.

The Pineapple summer crop was quite up to expectations, and the prices realised, satisfactory. The marketing was in the hands of C.O.D.,

who also controlled last season's Strawberry crop.

Improving Strawberries.

With the object of improving the type of Strawberries adapted to this State, the Department of Agriculture imported numerous varieties, and also quantities of seeds, the plants from which have been distributed throughout the principal producing centres.

Passiflora ligularis also received attention. The fruit of this variety is said to be much preferable to the well-known Passion Fruit, and hopes are entertained that the plant will prove unaffected or resistant to the most persistent fungus which has been so detrimental to the better known *Passiflora edulis*.

The Crown Gall Controversy.

The annual controversy, re the pre-

son on water supplies. The exemptions being practically nil, unless the tides are taken into consideration. No matter what the origin, bore, dam, well, etc., provided the means of application or provision in the shape of windmill, power pump—even horse or man-power—provided the capacity of supply exceeds 300 gallons per hour. Possibly through oversight, bores that failed to tap water, shafts sunk without result, and dams of which the bottoms have fallen out, are omitted, but on the face of things, it is inconceivable how they can long escape in the light of current events. It has been suggested that the Irrigation Commissioner must introduce new revenue-producing features to justify the continuance of his office, but evidently it is not to be all plain sailing, the Bowen Fruitgrowers' Association having publicly stated their intention of testing the validity of proposed drastic imposition.

(Note.—More recent advises state that the charges imposed under the Water Act by regulations gazetted in March have been withdrawn, and registration of water facilities is merely a formal requirement, without fee. But the Government still retains wide powers under the Act which would enable it to impose such special taxation.)

During the last few years the producer has experienced some variety in legislation, and its application—ostensibly for his benefit. Amongst the invitations for general approbation, characteristic of the initiation of the "Council of Agriculture" your correspondent incurred most severe displeasure by modestly suggesting its utility being mainly in the direction of providing lucrative positions for a chosen few, and now that the "Council" has been practically relegated to oblivion, where Government subsidies do not penetrate, and limitation of areas unheard of, what, it may be pertinently asked, has the Council accomplished for an expenditure of some £137,000? From its retired position it may refer to the C.O.D. as an offshoot, but the latter has entirely controlled its own affairs and capably financed without the assistance of Government subsidies.

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

sence (or absence) of crown gall or hairy root in nursery stock refused admission to this State is sure to be revived with the advent of planting season. Have we an Australian authority competent to decide the question—if so it would be a pleasure to hear from him. The local authority is positive that crown gall is present in nursery stock, and an equally reliable one from the exporting State is equally emphatic that plants refused admission for being infested were quite free from any suggestion of the trouble. This confiction of opinion gets us nowhere, but generates ill-feeling.

Taxing Water Supplies.

The time of one being classed as a benefactor who induced two blades of grass where but one grew before has passed so far as applied to this State. With an inconsistent rainfall over the greater part of the area, irrigation for sundry crops and a water supply for other purposes, are necessities—as much to the pastoralist as the unobtrusive Strawberry grower. The latest official suggestion is a tax



CITRUS MARKETING.

The General Secretary of the V.C.C.A. reported on May 13, that at a recent conference between delegates from the Victorian Central Citrus Association and the Murray Citrus Growers' Co-operative Association and the accredited agents, the following motion was carried at the instance of the agents—"That efforts be made to ensure the arrival of fruit on the Melbourne market on Tuesdays, Thursdays and Saturdays, instead of Mondays, Wednesdays and Fridays as hitherto."

It was explained that if growers could follow out the above suggestion, the agents had a much better chance of handling their fruit to the best advantage.

At the same meeting the agents said that confusion and delays often resulted when truck loads arrived from the one centre without previous advice as to how the truck was made up. Secretaries are asked to give attention to this matter.

Good Demand for Factory Lemons.

On May 20 the V.C.C.A. reported that it could place 80 tons of good factory Lemons of all sizes down to a minimum of 1½ inches at £12/10/- per ton in bags Spencer-street, bags sup-

plied by manufacturer. Early intimation should be given of the quantity available, stating dates when the Lemons will be ready to despatch.

We can also place further quantities of 2½ inch Lemons on the same terms, and further quantities of large-size Lemons, minimum 2½ inches, at £14/10/- per ton Spencer-street, in kerosene cases supplied, freight paid by manufacturer.

Melbourne Market Report.

The V.C.C.A. Market Representative (Mr. W. E. Branson), supplies the following report of the Melbourne market for the week ending May 21:—Owing to the forward condition of Citrus fruits in all our districts, the consignments over the last two weeks have been heavier than at any period for many years. Judging by the appearance of the Oranges which we have received to date, a record season for high quality stuff is anticipated. Although more fruit has been rushed on to the market than advisable for this time of the year, growers interests have been well guarded, and good values have been maintained. This has only been possible by permitting heavy stocks to be carried over, instead of reducing values to a low level and clearing them.

Prices realised were:—Navel Oranges, A quality, special, 10/- to 16/-; B quality, special, 9/- to 15/-; C quality, special, 8/- to 14/-; standard, 1/- lower; Mandarins, best sizes, 15/- to 18/-; Common Oranges—The sale of these is affected considerably by the large percentage of small Navels coming to hand, New South Wales, 6/- to 8/-; Victoria, 8/- to 11/-; Lemons, 10/- to 13/-.

VITICULTURE IN NEW SOUTH WALES.**Seasonal Report for Month of April, 1927.**

The vintage is now practically completed for this State. Recently the Viticultural Expert had the opportunity of seeing young wines after the first racking and he was very pleased with the white wines, which were very good. The reds are superior to last year, but are somewhat lacking in colour.

Vineyard operations are at present at a standstill, but pruning should start in some parts at the end of next month.—Department of Agriculture Report.

The Royal Agricultural Society of Victoria

GRAND ANNUAL EXHIBITION

9 DAYS
15th to 24th September, 1927

Fruitgrowers!—This is the Show at which you should exhibit

Over £400

is offered in PRIZE MONEY, in addition to FOUR HANDSOME SHIELDS
Entries close Saturday, 13th August at noon

Prize Schedules, Entry Forms, etc., on application to—

HENRY SCHWIEGER, Secretary.

Temple Court, 422 Collins Street, Melbourne

NOTE ADDRESS

CANNED FRUITS INDUSTRY.

Inquiry to be Held.

Export Bounty for This Year Only.

In order that Australian fruits may be available in Great Britain this year the Federal Ministry decided early in May to approve of a subsidy of not more than 1/6 per dozen 30 oz. tins on the export of Clingstone Peaches to Great Britain. It was also decided that the Development and Migration Commission should be requested to investigate and report on the position of the canned fruits industry in conjunction with its inquiries into the dried fruits industry.

In making these announcements the Minister of Markets and Migration (Mr. Paterson), said that owing to adverse weather and the ravages of

pests and diseases the pack of Apricots, Clingstone Peaches, and Pears was considerably below that put up in Australia last year and the previous year. The total production this year was just about sufficient to supply the requirements of Australia and New Zealand, where Australia had about 80 per cent. of the trade. The Canned Fruits Export Control Board, realising the excellent work done by the Commonwealth last year in placing on the London market about 200,000 cases of canned fruits so well graded and packed that a good reputation was established, decided that it was essential that, despite the shrinkage in production, a parcel should be placed on the markets of the United Kingdom from the Commonwealth this year. California was now offering its large surplus of canned fruits to Great Britain at prices which were much below the cost of production,

both in the Commonwealth and in California.

Mr. Paterson added that the subsidy approved of was recommended by the Board of Trade and the Canned Fruits Export Control Board. The main condition attaching to the subsidy was that the Department of Markets and Migration was to be satisfied that the best price was obtained for fruit. It had also been decided by the Ministry that in future the canners must arrange among themselves to bear the loss of export.

NEW SOUTH WALES.

Seasonal Report for the Month of April.

Apples.—Consignments of Apples are still being forwarded, and choice lines are commanding highly remunerative prices to the grower. Special grade Granny Smith, Yates, and other late varieties are realising not less than 18/- per case, whilst as much as 25/- have been obtained.

The quality of the fruit is exceptionally good and well up to the usual standard in size.

Local supplies of Apples will be exhausted at an early date, as growers are taking advantage of the good market and forwarding consignments as quickly as possible.

Pears.—Choice Pears are realising firm rates. The main varieties being marketed are Josephine, Packham's Triumph, Winter Cole and Winter Nellis. The quality is exceptionally good; and the fruit of good commercial size.

Citrus.—Citrus fruits of all varieties are ripening gradually, and being marketed as freely as they can be absorbed.

The Navel Orange crop is only a medium one, and the fruit is barely ripe enough yet for harvesting, though a sufficient quantity of Thompson types are supplying market requirements, and selling up to around 14/- per case. Common Oranges are fairly plentiful, but are of an intermediate crop—the result of blossoming last May. The quality of this fruit is very good, although sometimes a little acid, but the rind is thinner than the usual main crop, and more attractive. Ruling rates are from 5/- to 9/-. In a few months Common Oranges will be scarce, due to the very light setting of main crop fruit.

Mandarins are bearing a good crop in many districts, particularly on young trees; older trees are light, and the fruit is often small. Prices are ranging from 5/- to 10/- per case.

Lemons are bearing a moderate crop, realising from 5/- to 10/- per case for best.



Steadily and Surely

SULPHATE OF AMMONIA

is finding increased favor with the farmers and orchardists of the State. Particularly is this so where small acreages and high production costs necessitate large acre yields. Intensive cultivation will succeed where EXTENSIVE cultivation has proved unprofitable. It is just as true to-day as it was when nitrogenous fertilisers were first applied in the State that

Crops are bigger and better when you use Sulphate of Ammonia.

Write for Handbook, "Productive Fertilizers"

THE METROPOLITAN GAS CO.
196 Flinders Street - MELBOURNE

The Success of Your Orchard— Depends upon the Success of your Implements

**“Harvey” Single and Double-Furrow
Plows will make this Success for you**



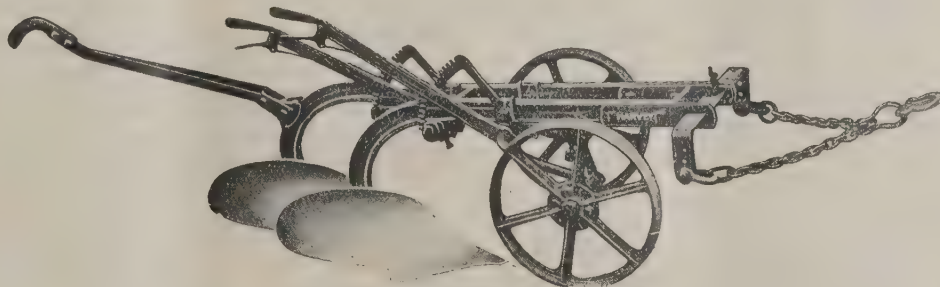
Single Furrow Orchard Plow

The “Harvey” Single Furrow Orchard Plow, with Shifting Handles and Head, will Plow on or off to the butts of the trees, as shown in illustration.

In plowing away, the strips between the trees can be cut right out with this Plow, leaving no strips to dig, and doing away with the necessity of cross plowing, strip digging or chipping.

Write for particulars of the “Harvey” Orchard and Vineyard Strip Digging Hoe for taking out strips under the trees and vines.

“Harvey” Single Furrow Plow, ploughing right up to the butts of the trees.



**Orchard and Vineyard 2-Furrow Plow.
This Plow is shown with One Handle. Can be converted to three furrows.**

This Plow has extra good clearance between Mouldboard and Wheel, also under Beam. Levers are low when at work, wheels are fitted with Grease Cups and dust proof removable boxes. Single Handle can be set either to the near or off side of Plow when plowing close up. The Plow is fitted with a sliding Head Rack in order to Plow on, or back off, close up to the vines and trees. It is also constructed in such a way that the draught may be raised or lowered for plowing very hard or soft ground.

The Pull being from both ends of this Head Rack and the chain being adjustable by a grablink, the Plow always pulls square when off set under the trees.

The Land Wheel is constructed so that it can be set in or out as desired for Orchard Cultivation.

Guaranteed to do Good Work.

Write for Catalogues of complete range of Orchard and Vineyard Horse and Tractor drawn Implements. Free

D. HARVEY, Implement Manufacturer
BOX HILL, MELBOURNE

SHOWROOM: 440 ELIZABETH STREET, MELBOURNE

AGENTS IN ALL LEADING DISTRICTS



10 eggs a day from 11 hens

After a fortnight's use of "Karswood," not a single day without Eggs

PRETTY good record, isn't it? Yet season in and season out, we continuously have records sent to us, or we hear from other sources, of similar results from feeding with "Karswood." It is simply a tonic which combines the essential food constituents that a fowl finds for herself in Spring when allowed on an open run. Shut up in a confined

run, or backyard, what chance has a fowl of getting her natural diet—insects? "Karswood," too, is as economical as anything well can be. One 1/- packet is sufficient for 20 birds for 16 days. At this moderate outlay will not you test your fowls and see if they won't do as well as those mentioned in the following testimonials;—

"Karswood is Great."

Dear Sirs,—

I have been using Karswood Poultry Spice for 6 months, and after a fortnight's use I have not been a single day without eggs. Previous to this my birds, although well fed, simply would not lay except an occasional egg. They are getting exactly the same quantity and manner of food now as previously, yet for the past six months I have had 7-10 eggs per day from only 11 hens, and this through the winter months. I think "Karswood" is "great."

(Sgd.) Mrs. V. SIMMONS,

Jeeralong Mail, via Morwell, Gippsland.

"Never a Day Without Eggs."

April 21st, 1926.

Gentlemen,—

Kindly forward as soon as possible 2 lbs. of Karswood Poultry Spice, for which I enclose Postal Note for 5/6 as payment, including postage.

Although I have not many full-grown hens, ever since June 20th, 1925, I have never been one day without Eggs, which fact I attribute to the constant use of "Karswood" Poultry Spice since that date.

I also find it excellent in promoting the growth of young chickens.

Eauabalong, N.S.W. (Sgd.) H. THORPE.

Note the Economy

1/- packet supplies 20 hens for 16 days.
2/- packet supplies 20 hens for 32 days.
13/- (7 lb. tin) supplies 140 hens for 32 days.

Supplies

Karswood Poultry Spice is obtainable from all wholesalers and stores at the following standard retail prices:—

½lb. packet	Price, 1/-
1lb. packet	" 2/-
7lb. tin	" 13/-
14lb. tin	" 25/-
28lb. tin	" 48/-

POULTRY NOTES

THE ECONOMIC ASPECT OF DUCKS IN FRUITGROWING.

(By J. G. Maynard, Long Ashton Research Station, in the "Utility Duck Club Year-book, 1927.)

DURING the last two years ducks have been kept on this farm with a view to increasing the economic output of the labor employed on fruit cultivation. The advantages of this scheme and the general management of ducks in combination with fruitgrowing form the subject of this article.

Under present-day conditions, farming, whether it be the production of livestock, cereals, fruit or vegetables, must be run on strictly business lines in order to bring in a profit. The margin of profit over loss is often small and is apt to vanish altogether unless care is taken that every item of expenditure justifies itself—that is, not merely results in something useful, but in something which will increase the ultimate receipts by more than its own cost. Careful study of well-kept accounts will often reveal items on which expenditure is unnecessarily high—for instance, the useful but expensive gadgets on which much money is spent on many poultry farms, and such expenditure can be curtailed to the farmer's advantage. This form of economy is comparatively easy to carry out, but, though necessary, probably it will not result in a large reduction in the year's expenses. To effect large economies, the large items of expenditure must be attacked.

In the production of cereals, fruit or vegetables, by far the heaviest item of expenditure is probably wages; while on dairy and poultry farms the food bill will occupy the foremost place. Poultry farmers frequently say that the last thing to economise on is foodstuff. Economy on foodstuff, however, most emphatically does not mean feeding the birds on short rations of inferior quality. Economy on foodstuff, though not as easy as cutting down expenditure on gadgets, etc., can be achieved by studying rationing; by watching the trend of food prices; by knowing the qualities of a good sample of meal or grain; by avoiding certain high-priced, much advertised proprietary articles of no exceptional value; by storing purchased foodstuffs in dry vermin-proof places; and last, but by no means least, by feeding no more than is necessary in troughs or hop-

pers which prevent the birds from scattering the food broadcast over the countryside.

The heaviest item of expenditure in fruit farming is wages, and here the strictest economy is necessary. Economy in this connection does not mean cutting down the staff employed on the farm any more than it means cutting down the quantity of food supplied to stock; nor does it mean paying the lowest possible scale of wages, any more than it means cutting down the quality of food supplied to stock. Indeed, it is possible, though it may sound paradoxical, that economy could be effected by raising wages, as it has frequently been found that when higher wages are paid the output is greater. It means employing the labor on the farm for the most useful work at the most useful time.

Soil cultivation of one sort or another is necessary at some period in the life of any fruit tree. Cultivation on a fruit farm is carried out for two main purposes. Firstly, to aerate the soil and create a surface mulch in spring and summer, so that the trees and bushes may not suffer from drought; and, secondly, to check weed growth. It is in this latter connection that ducks are useful.

Weeds are an ever-present problem and cannot be dealt with once for all, but are constantly demanding the attention of the farmer. This means utilising labor often at a time when human labor is badly needed elsewhere, and in wet districts, at any rate, when hoeing is of little value. Let the duck labor deal with the problem.

Ducks can be folded on any sort of fruit plantations, if precautions are taken in certain cases. They should not be run under soft fruit when it is coloring or ripe, or they will damage the fruit. The sequence of ripening of soft fruit lends itself to drafting batches of ducks on to the fields in something of the following order:—Gooseberries, picked green; Currants, early, midseason and late; dessert Gooseberries. No ducks should be allowed on Raspberry beds in spring and early summer, until the young canes have grown sufficiently to avoid damage.

If ducks are under Logans or similar berries, care must be taken that the thorns do not lame the ducks. This can be avoided by keeping the young shoots tied—anyhow a good practice—and by pruning while the ducks are elsewhere. This latter precaution also applies to Gooseberries.

Although no definite evidence exists, it is probable that ducks could be folded very lightly over Strawberry beds, in the spring, for the purpose of destroying slugs. They would have to be removed as soon as the fruit started to swell.

Ducks can be folded the whole year round under Plum, Pear, Apple or cherry trees. The amount of damage they do to the dropped fruit seems negligible, and although it is said that fruit is not good for them, no ill-effects have been seen here under Apple and Pear trees.

One other warning is necessary. It is unwise to have ducks folded under any type of fruit while spraying is in progress.

Only Khaki Campbells have been used for folding purposes at Long Ashton. The main incubated hatches take place in April and May. The ducklings are reared in a grass orchard under standard Apple trees, and are drafted on to other fruit plots at any time necessary after they are eight weeks old. An admirable labor battalion is, therefore, ready for action from early June onwards.

Drakes are culled and sold for what they will fetch as they are old enough. In this connection it is a notable fact that, although these drakes are small, they are very tasty and many people seem to prefer them to the usual heavy table birds.

(Note.—April, May and June in England correspond to October, November and December in Australia.)

(To be continued.)

THE HARD-WORKING HEN.

Hard work means nothing to a hen. She just keeps on digging worms and laying eggs, regardless of what the business prognosticators say about the outlook for this or any other year.

If the ground is hard, she scratches harder.

If it's dry, she digs deeper.

If it's wet, she digs where it's dry.

If she strikes a rock, she works around it.

If she gets a few more hours of daylight, she gives us a few more eggs.

But always she digs up worms and turns them into hard shelled profit as well as tender, profitable broilers.

Did you ever see a pessimistic hen? Did you ever hear of one starving to death waiting for worms to dig themselves to the surface?

Did you ever hear one cackle because work was hard?

Not on your life. They save their breath for digging and their cackles for eggs.

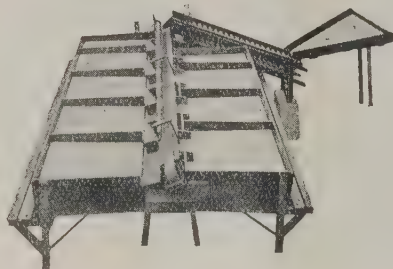
Success means digging. Are you?

—Exchange.

"To Choose the Best is Wisdom"

CITRUS GROWERS!

A Word About Your Coming Season



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

Australia needs up-to-date marketing methods. We have made a particular study of Citrus requirements and our knowledge is at your disposal.

We specialise in full packing house requirements, including Brushers, Driers, Automatic Weighers etc.

Also specially designed packing house sizers (allowing for any number of bins) for any one size, which will size Mandarins, Oranges, Lemons and all other fruits.

WRITE FOR FULLER PARTICULARS

Our Catalog also shows a range of 14 models of Fruit Sizers, any one of which is suitable for the grower who packs his own fruit

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

The Fruit Industry in California

Codlin Moth Control :: Apple Standards

(By Mr. D. H. Rundle, Redland, Cal., U.S.A.)

THE largest area of Apples in Southern California lies on the mountain slopes 75 miles east of Los Angeles, at an elevation of 2,500 feet. Originally some 3,000 acres were planted, beginning 15 years ago, but the results have not been encouraging for a variety of reasons, so year by year the acreage is being reduced and giving way to Peaches and Walnuts.

Control of the codlin moth is different here from what I encountered in Tasmania and New Zealand. The summer is hot and dry, and the moth is sadly prolific. It is not unusual to make from five to seven arsenate sprays in a season, which admittedly is expensive, but at that control varies in effectiveness.

The Experimental Station at Riverside, 15 miles away from this Apple district of Yucaipa (U-ki-pa) has put the work of checking up moth control into the very capable hands of a highly-trained and successful entomologist, Prof. Ralph Smith. Recently I heard him lecture to the local Apple growers on the results of last year's experiments on spraying with arsenate as the medium of con-

trol, both in field and laboratory tests. His ideas and results appeared to be so different from the ordinary discussion of the subject, that I pass them on without criticism for the readers of the "Fruit World."

Control of Codlin Moth.

In his laboratory experiments Prof. Smith used some 20,000 worms. He gave out the statement that complete coverage does not give complete control, a sentiment that finds friends among the growers who have done their best to beat the codlin moth. Tests made in a cage using 100 worms per cage, showed percentage of entrance gained as follows, all Apples sprayed with arsenate solution on basis of 2 lbs. to 100 gallons: Apples sprayed with—

A small atomiser . . .	34% entered
Coarse spray (big drops)	33% "
Fog Sprayer	70% "
On another cage test with 100 worms, the results were:—	
Strength of arsenate solution—	
½ lb. per 100 gallons . . .	76% entered
2 lb. " " " " " "	34% "
16 lb. " " " " " "	9% "

In neither test was a spreader used, and the deductions made were that the ratio of worms entering was pretty well in line with strength of arsenate used, and the results based on ratio of worms to acreage. Where the heaviest infestations were, the greatest loss would be met.

In the matter of spreaders the use of fish oil showed up under photos. as being more effective than lime-casein. It held longer to the surface of the Apples and checked or scaled less as the Apple grew.

Experimenting on the time of applying the calyx spray, Prof. Smith found some startling results. Checking up on the thoroughness of application under regular field practice, it was shown that on trees about 15 ft. high and 18 ft. across, where 8 gallons per tree were applied at the rate of 2½ gallons per minute, one-third of the Apple was spray covered, but where the tree had 16 gallons applied at the same rate, three-fourths of the Apple was covered. Hence a recommendation that more than usual gallonage be applied, and the rate of application be reduced from 5 gallons per minute to three.

As to time of applying calyx spray, it was advised to wait until 90 per cent. of the petals had fallen. It was very strikingly shown that when the petals fell, three times as much ar-

senate was applied to the small fruit as when sprayed while blossom was open. It is generally regarded here that more effort must be made to killing off a greater portion of the first brood. This will have to be obtained in a large part by better hygiene of the orchard, mostly applied to bandaging trees, and regular inspection of bark and crevices in trees where the moth goes through pupation.

Checks made on control through use of lures showed the best results when the bait used was a weak solution obtained from boiling dried Apricots in water. This year sodium arsenate will be added to the solution, and fed up through a wick, from which the moths can absorb the liquid. Check will be made on this by counting the number of moths which alight on the wick. At sundown it is easy to see the moths around the trees, while a little later one can check up also on the downward movement of the grubs from the Apples into the bandages.

Californian Apple Standards.

Californian Apple standards are undergoing important changes this year, due, in a large degree, to the big shipments annually coming into Southern California, from the North-East States of Utah and Idaho, where the bushel basket is mostly used. Extra Fancy grade may now be packed in clean standard boxes instead of all new boxes. This will stimulate the pack of Extra, as it will cut 4d. a box off the box costs. Fancy and C grade can be put up loose and lidded. Previously they had to be wrapped and packed like Extras. The result had been to almost abandon these grades here, and to put Apples up stamped unclassified, which mostly meant a mixed grade with much poor fruit hidden in. All changes will benefit local conditions, in my opinion.

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

Operating a commercial packing house this last season, the writer handled 25,000 boxes of Apples for local growers, not any being wrapped. All fruit had to be wiped with mechanical brushers to remove the excess spray residue, as a result of the agitation in England over the arsenic scare. In some unexplained way, this scare moved the U.S. Bureau of Pure Foods to enforce a previously unused clause whereby the addition of poisonous substances to foods whereby danger to the public might result was forbidden. It is almost certain that all Apples shall in future be washed in a solution of hydrochloric acid before packing. More expense, and a further reason for the uprooting of the Apple orchards.

California's Premier Commercial Fruit Company.

The Sun-Maid Raisin Company of Fresno has made history this last month in fruit circles by getting New York bankers to float a big bond issue. All debts of the original Sun-Maid Company have been paid off as a result of the underwriting of the

bond. I noticed in their advertisements of the bond issue the striking claim that "in New Zealand," next door to the Australian vineyards, "we are rapidly totalling up big sales of our Raisins." How does that sound to the Australian grower? Perhaps he wonders why the California grower can accomplish so much more in co-operation than can the Australian. Well, the growers of Raisins pay the manager of their company £20,000 a year, if current report is correct. He heads an organisation that is not equalled among fruit companies for aggressiveness and initiative in selling. I have said the growers pay him. It is my guess that it is the bankers who employ him. Where American finance runs into the millions, look for the hands of the aggressive financiers of this country. The grower of Raisins here, in my opinion, is only a pawn in the banker's hands. Raisins had their slump, the banks foreclosed on immense acreages at a safe figure, the stored Raisins were sold at prices that moved them, the present management has been re-elected for three years. I



Why be satisfied with dwarfs and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated
Louisville, Ky., U. S. A.

Kills
Aphis

"Black Leaf 40"

40% Nicotine

look for a big advance in the prices of Raisin lands in California, with better prices for the product and much publicity on the soundness of the industry, with New York and Californian bankers as sellers of Raisin acreage.—D. H. Rundle, Redlands, California, March 6, 1927.

AUSTRALIAN-GROWN TIMBER.

A company known as Stirling Australian Pines Pty. Ltd., has been formed with the object of growing softwood timbers within 34 miles of Melbourne.

Conditions being suitable, the company proposes to plant in June, 1927. Local expenditure on each 500 acre area will cost approximately £7,500. It is stated that each such area will

carry at maturity a crop worth at least £200,000. Local labor and capital will be employed.

ORCHARD PESTS.

Codlin Moth.

See "Fruit World, May, 1927, p. 202. Painted Apple Moth.

Owing to climatic conditions, the caterpillars of this destructive moth are still to be found in orchards. If the woolly or tufted caterpillars are observed, the trees should be sprayed with arsenate of lead.

Cherry Aphids.

Winter spraying with lime-sulphur or red oil should be continued. This will destroy the eggs of these insects, which are usually to be found on the

axils of the leaves. In summer, use tobacco sprays.

Scale Insects.

Now is the best time to spray for scale insects, such as San Jose, Red, Olive or Black, Brown, Apple Mussel, and other scales.

The spraying should be done after pruning. Do not leave prunings lying about. They should be burnt as soon as they are cut from the trees.

Red oil or lime-sulphur is recommended as sprays.

Woolly Aphis.

The best time to spray for Woolly Aphis is during the winter months, when the trees are free of leaves. Nicotine sulphate and red oil are recommended.

This is prepared as follows:—

Nicotine sulphate 1 pint

Red oil 1 gallon

To prepare sufficient mixture to treat 100 trees, 1 lb. soap should be boiled in a gallon of water till dissolved; add 1 gallon red oil and mix thoroughly; then add 1 pint nicotine sulphate, and after mixing the whole for a few minutes, add 80 gallons of water. If the water is hard, a small piece of washing soda should be added.

Pear-leaf Blister Mite (Phytoptus).

These Mites produce reddish or dark brown spots on the leaves, the spots become darker with age, and may spread so as to entirely cover and destroy the foliage. The Mites pass the winter on the trees under the bud scales, and begin to work upon the leaves as soon as they appear in the spring. The eggs are deposited in holes bored into the undersides of the leaves. The young Mites cause galls or swellings.

Spray in winter with lime-sulphur or red oil.

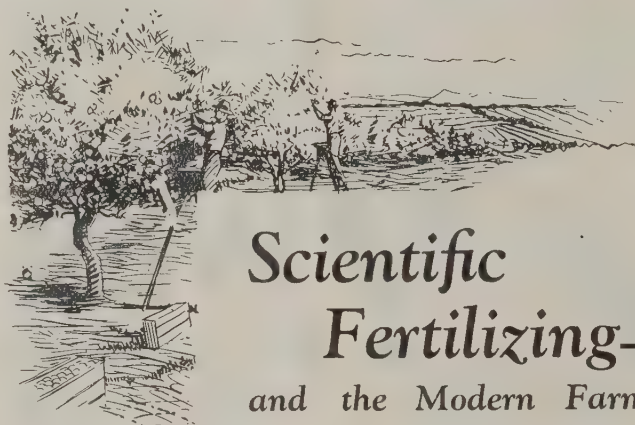
Bryobia Mite.

The Bryobia Mites are fairly plentiful on Orange leaves and twigs at the present time. They also attack many other kinds of fruit trees, particularly Apples. Their eggs are red and in clusters. The perfect Mites suck the sap from the leaves, causing same to turn a sickly yellow color, and they often drop off.

Spray in winter with lime-sulphur. Red oil is also recommended.

Red Spider.

Spray trees (particularly Apple trees) thoroughly with red oil or lime-sulphur for these pests.



Scientific Fertilizing— and the Modern Farmer

That's the title of a booklet which describes the wonderful new highly concentrated Complete Fertilizer which accomplished such astounding results for so many Fruit Growers last season.

Letters from orchardists who used it last year, are coming to hand, not only telling us it is the best Fertilizer they have ever used, but assuring us of all their future business.

VICTOR PLANT FOOD

That's the name of the wonder working Fertilizer which can have so much to do with your future Fruit Growing Success.

There is a free copy of this booklet available for you. Write for your copy to-day. Find out how Science can contribute to Your Success. Learn why, by using Victor Plant Food, you are assured of better, bigger crops—and at the same time, conserve precious time—eliminate wasteful cartage—and save costly, unnecessary labour. Ask for Booklet "F." Better do it now—right away, whilst the thought is before you.

VICTOR PLANT FOOD & GARDENING Co. Pty. Ltd.

136 Dandenong Road, Caulfield

(Works at Dandenong)

PATENTS
GEORGE A. U'REN

PATENT ATTORNEY
"HEPTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

"THE AUSTRALIAN TOMATO BOOK."

Under the above title our well-known seedsman, H. J. Rumsey, of Dundas, N.S.W., has issued another of those horticultural brochures which are proving so useful to Australian gardeners. This is the sixth handbook that Mr. Rumsey has given to us, and it still maintains the high quality of its predecessors. There are nearly 120 pages, crammed with information on Tomatoes and Tomato culture, and there is a very useful index at the end. There are also a number of handy drawings and illustrations.

By far the larger portion of the book is devoted to a description of 110 varieties, and out of this very large number, Mr. Rumsey has selected the 12 best, naming three extra early, three early, three mid-season, and three late varieties. It is interesting to note that Australian Large Red or Bendigo Large Red is not listed at all. This is the variety that is so freely and so successfully grown at Bendigo, Victoria.

Mr. Rumsey is in error regarding the experiments carried out at the Burnley Horticultural Gardens. These were valuable experiments, especially in determining that Tomatoes would thrive and produce wilt-proof plants, giving heavy crops, if grown under cheese-cloth shelters. The credit

should not have been given to Mr. Rae, but to the officers of the Science Branch of the Department, who were responsible for the whole work.

The questions of manuring and general culture, as well as of pruning and pests and diseases are very thoroughly dealt with, each in their own chapters. A valuable chapter is termed "American Experience"; as Mr. Rumsey has been several times to America, the collected information is very informative and valuable.

The chapter on "Preserving and Cooking Recipes" is novel in a garden book, but none the less useful. Over three dozen recipes are given, and some of them literally make one's mouth water. We certainly would like the wallaby tail Tomato soup, as well as the Tomato and Apple pie. They must be "some good" as the Americans would tell Mr. Rumsey.

The book is well worth a place on

our shelves, and we look forward to reading the seventh book on "Nut Growing," which is promised to us in the last pages.

HULL AS A MARKET FOR AUSTRALIAN APPLES.

Messrs. White and Son (Hull) Ltd., in offering their services to growers for the handling of shipments of fruit in the present season, point out that the Hull market is a very satisfactory outlet for Australasian Apples, and in this connection they state that shipments will receive the best possible care and attention in the hands of the White Service Brokerage House in this port.

"We had the pleasure of handling last year large quantities of Australasian Apples, but unfortunately owing to the unprecedented situation caused by the general strike, the results were in all cases most unsatisfactory.

"In view of the more favorable industrial conditions which are now prevailing, we are confident that the coming season will give very much more satisfactory results to shippers.

"This particularly affects the Port of Hull, as the great industrial centres of the North and North-East draw their supplies from this market.



(GIBBS BRIGHT & CO.,—See Page vi).

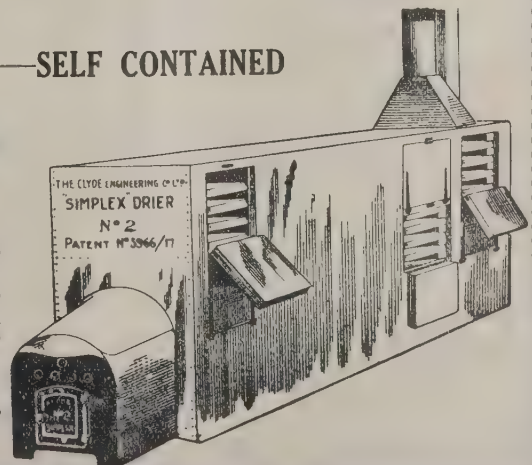
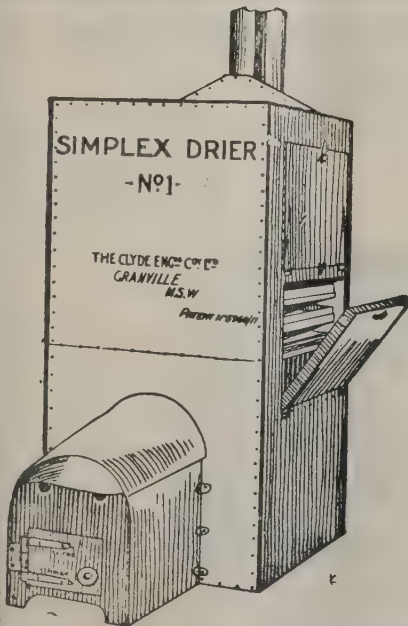
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
... or ...
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

In addition to these facts, the reduced crop and the smaller quantities of fruit available for export from Australasia will tend to have a strengthening effect on the market, and it is therefore to be deducted that quotations may show a satisfactory return to exporters."

WHAT ADVERTISING HAS DONE FOR THE FRUIT TRADE.

An advertising outlay of £40,000 resulted in an increased expenditure of two million pounds on fruit last year, according to official figures supplied by the Board of Trade to the Fruit Trades' Federation.

During the year the public spent £34,789,219 on fresh fruits—almost exactly £2,000,000 more than in 1925, and nearly £3,000,000 more than in 1924. The heaviest increase, both in consumption and expenditure, was in Apples, the import value of this fruit being £9,561,921 in 1926 and £7,541,961 in 1925. Thus the increase in expenditure for the year was £2,019,960. The increase in consumption was 2,294,830 cwt. There was a falling off in the popularity of Nuts, Plums, Strawberries and other small fruits.

According to the Federation the

average consumption of the various fruits was as follows:—

	1926	1925	1924
Apples ..	93	84	85
Oranges ..	67	66	53
Bananas ..	52	45	42
Lemons ..	15	14	12

"I do not think the commercial world can show any finer example of the enormous power of advertising than this," said Mr. Charles Wray, President-elect of the National Federation, in an interview with a press representative. "It cost the Federation £40,000 to say 'Eat more fruit' last year, but the returns show that the expenditure was justified a hundredfold. The industrial condition of the country during the past three years would have been calamitous to the fruit trade without steady and consistent advertising. In a word, advertising has saved the day."

TO AN ORANGE.

In days gone by we thought you rather vulgar,
Playing a humble—tho' not hidden—part,
The darling of the undiscerning many,
Sold from a stall (at two or three a penny),
Or coster's cart.

And yet at times, caught by your golden beauty,
One wondered—"Was't perchance such fruits as these
That tempted Atalanta's feet to dally,
Or burned among the boughs in some bright alley
Of the Hesperides?"

But all things change, and you are scorned no longer,
But honored, sought, acclaimed on pictured page;
No more your lovers are apologetic;
To be concerned with matters dietetic
Is all the rage.

And now you yield to neither Pines nor Peaches,
To Muscats pale, nor delicate Nectarines,
But cheerfully adorn the proudest table,
Since yours it is to bear the glorious label—
"Richest in Vitamines!"
—Rose Fyleman, in the "London Spectator."

Parent: "My daughter tells me that you are a church member. What church do you belong to?"

Suitor: "Why—the—er—name some of them over."

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

**The Co-operative
Fruitgrowers of Otago
Limited, Dunedin**

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable
"Peachbloom," Dunedin.

-LEMONS-

**We are the largest Buyers
in Australasia**

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vic.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1855

★
Special
Catalogues
showing
prices
issued
after
each sale



Tel.-Addr.:
„Timmkorn
Hamburg“

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired

BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

FREE

A Valuable Book on Spraying

Not a Catalogue, but a highly scientific book of real and definite value to every fruitgrower. A book that deals with diseases of trees, conditions, treatment, etc.—a book that will probably save you pounds and pounds. It also deals with

Up to Date Spraying

It helps you to get out of the rut—shows you how the way of yesterday is no good to-day.

Write to-day for your copy—posted free. Also get a copy of the Catalogue of

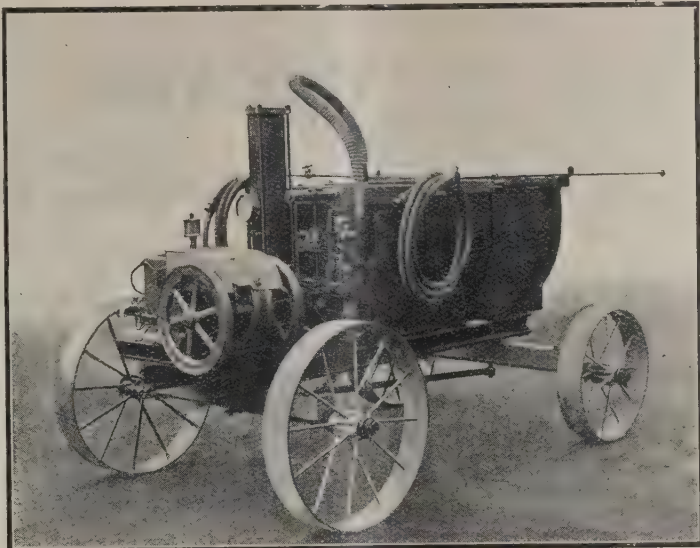
604 Motor Sprayer

The most advanced design on the market. Outside valves—standardised parts and special Pressure Regulator.

604 guarantees more thorough spraying.

Full particulars gladly sent.

Advice on spraying problems readily supplied.



A. H. McDonald & Co. Pty. Ltd.

Showrooms and Works: 570-4 Bridge Road, RICHMOND
12 Minutes from City—Take Flinders Street Tram
S.A. Address: 134 Waymouth Street, ADELAIDE
N.S.W. Address: 25 Clarence St., SYDNEY

W.McF

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

Are You
Interested in
Having Your
Shipments
Arrive in
Good
Condition

?

For Full Particulars Address

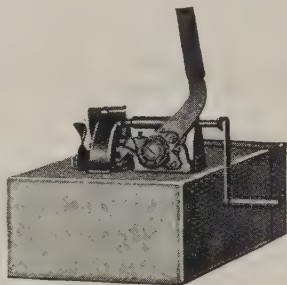
Gerrard Wire Tying Machines Co. Pty. Ltd.

FACTORY & HEAD OFFICE :

119-125 Hawke Street, West Melbourne

also

Reiby Chambers, Reiby Lane, SYDNEY, (N.S.W.)
Cr. Eagle & Charlotte Streets, BRISBANE, (Q'LAND)
Pirie Chambers, Pirie Street, ADELAIDE, (S.A.)
Southern Cross Chambers, Howard Street, PERTH, (W.A.)
Cr. Davey & Murray Street, HOBART, (TAS.)
68-70 Taranaki Street, WELLINGTON, (N.Z.)



Potash—and—Prosper!

Muriate



Sulphate

Are you wisely investing your money in fertilisers—
or “just writing cheques for manure?”

FRUIT TREES MUST HAVE POTASH
and they must have it in sufficient quantity or else
their owner may be “just writing cheques.”

You do not spray “by the acre”—you treat each tree
to a sufficient dose.

And that applies to Potash also

*We will gladly answer enquiries as to the uses of potash
here or in other fruit-growing countries of the world.*

Particulars and Prices, From

Dalgety & Company Limited

Bourke Street, Melbourne

It Pays to use this Sprayer . . .

BECAUSE :

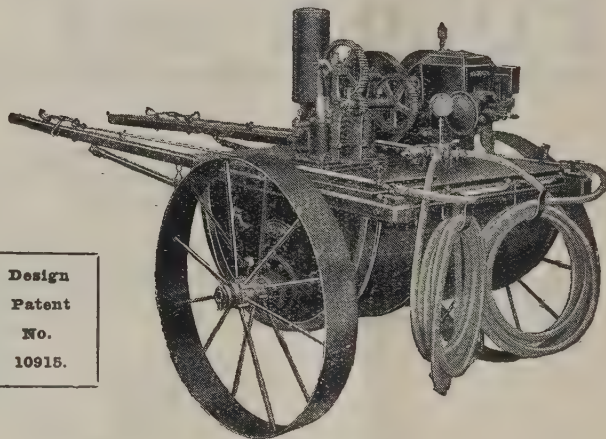
- It finishes the job more quickly.
- Enables better work to be done.
- Is Simple.
- Will not capsize.
- Perfectly balanced—it is light on the horse.
- Always Ready for the work.

Send for particulars of

Cooper

"PERFECT BALANCE"

The Best Sprayer Made



Design
Patent
No.
10915.

Cooper Engineering Co. Ltd.

350-358 SPENCER ST., MELBOURNE
129-131 SUSSEX STREET, SYDNEY

Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

GENUINE KUNDE

Budding & Grafting Knives

also Pruning Secateurs

NOW AVAILABLE

Prices on application to

L. P. ROSEN & SON

NURSERYMEN

EPHING - - N. S. Wales

TO CONQUER PLANT PESTS

The Most Comprehensive

FRUITGROWERS' AND GARDENERS' CHART

Issued in the Southern Hemisphere.

56 Colored Illustrations of Insect Pests and Fungus Diseases in all stages with description and treatment.

This most Valuable Chart contains

Full details for the control of all Insect Pests and Fungus Diseases and Plants or Trees attacked.

Also formulae for Burgundy and Bordeaux Mixtures, Lime Sulphur, Nicotine, Red Oil etc. and other useful information

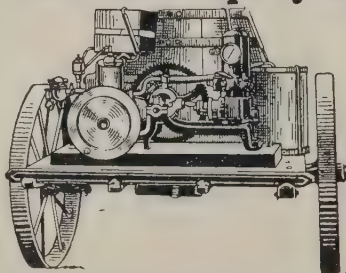
Colored Illustrations of Insect Eating Birds

PRICE, 21/- Post Free.

Send your order now to the

FRUIT WORLD Pty. Ltd., Bank House, Bank Place, Melb.

Effective Spraying means Better Crops and Bigger Profits



Made in Single and Double Plunges
3 and 4 horse power

You can have the same results as thousands of other growers by using

The BAVE-U (Pioneer Australian) POWER SPRAYER

All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles

Declared by a number of users to be worth its weight in gold

Write for Catalogue to the Makers:—

RUSSELL & CO.
ENGINEERS

BOX HILL, MELBOURNE
VICTORIA

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett St.
Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

THE "Garden Lover"

The Brightest
Horticultural Monthly

ANNUAL SUBSCRIPTION.

Commonwealth	6/-	Posted
British Poss.	8/-	"
Foreign	8/6	"

ORDER YOUR COPIES NOW

THE "GARDEN LOVER"

Bank House, Bank Place, Melbourne

GRUBBING



Thousands
in Use

It earns its
Famous
LOW PRICE
in a Few Days

Write for
Catalogue

WITH A "DIGGER" WINCH

A Man can uproot more Trees and Stumps in
a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

Latham Dehydrators

"STAND ALONE"

The "Rolls Royce" of the Artificial Drying
World.

Particulars, Prices, and list of present
users on application

D. J. LATHAM

157 Queen Street,

Melbourne, Australia



"Bay View" Fruit Picking Bag

CAN BE USED FOR ANY CLASS OF FRUIT

Allows use of Both Hands in Picking

No Bruising of Fruit

Weight Carried on Shoulders instead of
Back of Neck

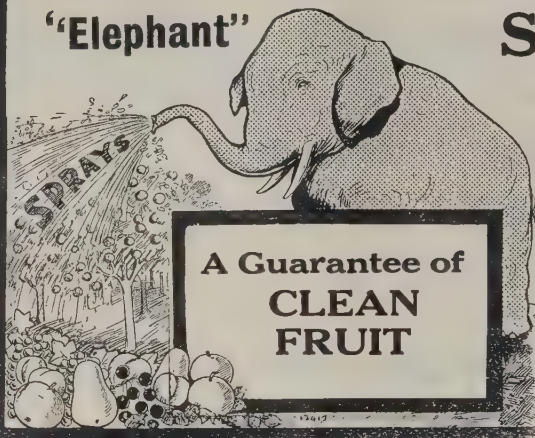
Mr. J. LANG, President of the Australian Conference of
Fruitgrowers, writes:—"After two season's use I am well
pleased with the Bags: fruit receives minimum of handling,
and is less liable to damage. They are also a great time saver."

PRICE, 12/6 EACH

Postage in Victoria, One bag, 1/3, Two bags, 2/-
Postage, Interstate, One bag, 2/2, Two bags, 3/8

F. R. MELLOR, 440 Elizabeth St., MELB.

"Elephant"



STILL ON TOP!!

ORCHARDISTS

should use only the best Fruit Sprays,
therefore ask for and see that you

GET

"Elephant" Brand

**NOW IS THE TIME TO USE :—
Prepared Red Oil**

AND ORDER

ARSENATE OF LEAD (PASTE & POWDER)

To obtain the best results it is necessary to spray thoroughly and frequently with Arsenate of Lead. This takes up considerable time, and is costly. It is therefore all the more necessary to use the Best Brand obtainable. To be sure of this, see that you use **"ELEPHANT" BRAND**, which has been proved to be not only the most reliable on the Australian market for many years, but the Highest Grade of Arsenate of Lead still obtainable.

Since the Wonderfully fine **"ELEPHANT" BRAND ARSENATE OF LEAD** came on the market years ago, numerous tests carried out by the various Government Agricultural Departments invariably show that this Brand stands alone. No other brand has shown consistently the very high qualities of **"ELEPHANT" Brand**. The figures published below speak for themselves,

And are THE ONLY RESULTS PUBLISHED IN THE SOUTH AUSTRALIAN JOURNAL FOR AGRICULTURE DURING THE PAST FOUR YEARS.

In 1921 **"ELEPHANT" BRAND ARSENATE OF LEAD** had the wonderful suspension of 89.35% (Jan. Journal), whilst in 1922 the Percentage was 52.4% (Mar., 1923, Journal), and in 1923 the percentage was 82.2%. (This was the last published in Dec. Journal). In each case **"ELEPHANT"** came out easily on top. Therefore we have not yet been beaten for suspension, and it should also be noted that the percentage of killing property in our Arsenate of Lead is particularly high.

**Also buy—E.B. Lime Sulphur, Atomic Sulphur
Spreader, Bordeaux Powder, Weed Killer
And Sulphur, Black Leaf 40, Bluestone, Etc.**

Write for a copy of the marvellous Government tests

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, **MADDEN GROVE, BURNLEY, MELB., Vic.**

Telephone: J 2008.

Agents: Seedsmen, &c.

INTERSTATE AGENTS:

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR JULY

Illustrations.

A Basket of Fruit for the Duchess	268
A New Motor Spray Pump	272
Australian-made Automatic Fruit Weigher	275

Subjects.

Answers to Correspondents	282
Canning Fruits: Bug-marked Peaches: Canning Assn. Opposed Further Plantings: U.S. Canned Fruits in Great Britain	266-268
Citrus: Fundamental Principles of Citrus Growing; Combating Frosts; Using Culls	271-272
Control of Thrips	xvi.
Dried Fruits: High Court Control Case; Record Vintage; Removal of Vines from Phylloxera Districts; Swabbing for Black Spot	278-279
Druit Fruits Sales	262
Empire Wine Competition	285
Fruitgrowing in California	263
Fresh Fruit Export Control: Defence Assn. Formed	268
Fighting Insect Pests	274
Manuring of Vines	283-285

Markets: British, Continental and Australasian	288-289
New South Wales: Reorganisation of the Industry; Orchard Wages; Lessons from Last Season	286-287
New Zealand: Fruit Exports and Imports: The Canning Industry; A New Apple	265
Preparing Citrus Fruit for Market	275
Poultry and Bee-keeping Notes	295-296
Queensland: Preparation for Planting; Council of Agriculture; News and Notes	273-274
Root Borer Beetle	291
Sale of Australian Apples in Holland and Denmark	265
South Australia: Plum Export; Notes from Berri; Grapes and Wine	290
Subscribers' Payments Received	291
Tasmania: Overseas Fruit Trade; Orchard Work for July; News and Notes	276-277
U.S. Fruit Crop Prospects	264
Victoria: Fruitgrowers' Meetings; Fruit Crop Report; Fruit Exports	264-269
Western Australia: Seasonal Work in the Orchard; Fruit Crop Report; News and Notes	281-282

NOTES IN BRIEF.

Tasmanian growers are opposed to the compulsory pre-cooling of Apples for overseas export, says our Tasmanian correspondent.

A Fresh Fruit Export Defence Association has been formed at Quantong, Vic., to oppose the Federal Fresh Fruits Overseas Marketing Act.

Dressed and seasoned hardwood cases for export fruit are being adopted in Tasmania. It is estimated that these cases will cost 10d. each.

Experiments with manurial spray treatment to aid in setting the fruit have been conducted with success in Tasmania, and directions for application are given by the Fruit Expert in the July Orchard Notes.

Good rains throughout Victoria have greatly improved the prospects for next season's fruit crops.

Severe frosts during June have caused considerable damage to Victorian Citrus crops. The temperatures were the lowest recorded during June for 30 years.

Kiewa Valley Orchards Proprietary Limited

The Famous Fertile Kiewa Valley—A RARE OPPORTUNITY

372 ACRES with Splendid River Flats, and Three-quarters Mile Frontage to the Kiewa River, adjoining Kiewa Township.

4 Miles from Huon Railway Station.

13 Miles from Wodonga Railway Station.

17 Miles from Albury Railway Station.

272 ACRES of rich River Flats and good upland.

100 ACRES making one of the Finest Orchards in Australia—40 acres in Apples, and balance in Plums, Pears, &c.

MANAGER'S COTTAGE, Men's Huts, Stables, Barns, Cool Store, and other improvements.

RAINFALL—30 inches per annum. Never-failing Springs supply home and stables and garden; three big Reservoirs.

Splendid Dairying and Pig Farming proposition; good milking shed, etc., and well-laid-out piggeries. Tobacco-growing areas and two concrete tobacco-curing kilns almost completed for use. Well-equipped working plant, horses, cows, pigs, and everything necessary for a GOING CONCERN.

Owing to the death of the Manager (the late Mr. J. M. Rutland), TENDERS are invited for any of the following:—

1. (a) Purchase of the property, stock, and working plant as a going concern.
- (b) Purchase of the property exclusive of stock and plant.

- (c) Purchase of orchard, nurseries, and working plant therefor, including cool stores—total area of about 150 acres.
- (d) Purchase of orchard and nurseries without working plant.
- (e) Purchase of river flats and uplands, exclusive of area in (c) and (d), with dairy herd, pigs, and working plant therefor.
- (f) Purchase of river flats and uplands as in (e), without stock and plant.
2. (a) Lease of the property as a going concern.
- (b) Lease of the land without stock and plant.
- (c) Lease of orchards, nurseries, and working plant.
- (d) Lease of orchards and nurseries without working plant.
- (e) Lease of river flats and uplands, exclusive of area in 1 (c).

N.B.—Option of Purchase can be asked for and given to approved tenderer.

Title is perfect—Certificate.

Inspection of property and plant will be given by appointment. Telephone or wire, or write to the Manager, Kiewa Valley Orchards Pty. Ltd., Santa Rosa, Kiewa (Victoria).

Any bona fide estate or stock and station agent introducing buyers or tenants and lodging tender accepted by the company will be paid the usual commission on such sale or tenancy.

Further Particulars
Obtainable from—

Messrs. NEILSON & NEILSON, Geelong

As Agents for KIEWA VALLEY ORCHARDS PROPRIETARY LIMITED.

Remember!

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the **BEST**, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos, only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 5/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing; or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place off 410 Collins Street, Melbourne.

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart.
Western Australia: D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane.
New Zealand: Gordon & Gotch Ltd., Wellington, Dunedin and Auckland.
Great Britain: Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

DRIED FRUITS SALES.

Prospects Good.

Prospects for the new season's dried fruits are encouraging. A considerable part of the available surplus of currants has been sold at £42/6/4 a ton, £3 a ton more than last year. Prices for lexias, £51/14/-, are also good, although only 103 tons have been sold. The price is £13 a ton better than the average last year. In view of the large surplus, the £60/7/9 a ton that has been obtained for sultanas is also satisfactory.

The chairman of the Commonwealth Dried Fruits Control Board (Mr. W. C. F. Thomas) stated on June 24 that the sales of Australian dried fruits in Great Britain recorded with the London agency of the board for the week ended June 16 represented: Sultanas, 48 tons (old crop), average price £50 a ton; Currants, 348 tons (new crop), average price, £42/9/9 a ton; Sultanas, 356 tons, aver. price, £60/10/3 a ton; Lexias, 57 tons, average price, £50/8/- a ton. The sales for new season's fruit now amount to: Sultanas, 1,549 tons, aver. price, £60/7/9 a ton; Currants, 2,092 tons, aver. price £42/6/4 a ton; Lexias, 103 tons, aver. price, £51/14/- a ton.

The dried fruits season was opened in London on June 21 by a luncheon at Australia House.

FRUITGROWING IN CALIFORNIA.

The World's Largest Peach Orchard.
"Raisin Day" Wins by Success.
Growers and Voluntary Co-operation.
 (By R. E. Boardman, A.F.I.A.)
 San Francisco, 30/4/27.

THIS IS RAISIN DAY, as I write. Only an hour ago I was seated in the fast express train travelling north from Los Angeles to San Francisco, accompanied by the N.S.W. Director of Education, Mr. S. H. Smith, a fellow-delegate to the recent Pan-Pacific Conference at Honolulu.

We joined the train at Merced, not far from Fresno, the great Raisin producing centre, in the heart of the San Joaquin Valley, and at which place the Raisin Day celebrations were being held.

At Merced we saw the largest Peach orchard in the world, controlled by the California Packing Corporation. Here there are 3,200 acres under Peaches, mainly Tuscan, Phillips, Libbys, Peak, and Pelora, of this acreage, only 200 acres are in freestone varieties.

There are also 400 acres of Apricots (varieties—Royal, Blenheim and Tilton), and 40 acres of Plums.

Continuing our journey northward, through the fertile San Joaquin Valley, we passed through Turlock, Modesto, and other thriving settlements on the 170 mile journey to San Francisco. On the way we noted mile after mile of irrigated orchards and vineyards on both sides of the line. It looked like one huge orchard, there being no fences between the properties.

Whilst looking at these vast areas of fruit trees and vines, all in their fresh spring-time leafage, it seemed quite fitting that special "days" should be set apart for keeping the fruit industry favorably before the public.

California has one and a-half million acres under fruit; in other words, this one State alone has five times as much in fruit as the whole of Australia.

Co-operation.

Growers have accomplished much by means of organisation, recognising the necessity of having standardised products to win and maintain the confidence of the public. Co-operation goes big here. Growers co-operate thus:—(1) Among themselves to standardise their products; (2) with the wholesale traders (buyers and commission men); (3) with the retailers in advertising and assisting in the maximum distribution; and (4) with the public in guaranteeing the quality of the fruit sold, and in advising the people as to the best times at which to purchase the several kinds and varieties.

Co-operation is thus an effective force, because of the completeness of the programme in the whole field of distribution.

"Raisin Day"

was held at Fresno. The town was en fete, 200,000 people attending from all parts of the State. The Raisin Queen was duly elected, and had to sit on a throne alongside the Raisin King—a popular movie actor from Hollywood. There was a great field day of sports, pageantry and illuminations.

The celebrations at Fresno headed up the propaganda for "boosting" Raisins. Throughout the State, "Raisin Day, April 30"—had been heralded and the newspapers gave generous space to the proceedings. Leading articles appeared, reminding the people that the eating of Raisins was not simply good for the health, but that the whole State would benefit by the growers being able to satisfactorily market their crop.

Hotels, restaurants, cafeterias, and housewives were all urged to prepare various dishes containing Raisins. This request was surely complied with. It was part of a big drive to assist in disposing of the present supplies of dried fruits, whilst the new crop was beginning to show on the vines. The effect of this propaganda was undoubtedly felt far beyond the boundaries of the State of California.

We must express appreciation of the hearty spirit in which the whole programme of propaganda was carried out. It was all done as a regular part of the State's activities, and cordially accepted as such by the general public.

I feel convinced that more can be done in Australia along these lines, so that people will really **get the fruit habit.**

Speaking of the fruit habit reminds me that I should mention here that fruit certainly has a regular and honored place in the daily menu of the average American.

On the American ships in which we travelled from Sydney to San Francisco, a wide choice of fruits was listed for breakfast, to be eaten before porridge, corn flakes or the like. Here is the list:—

Grape Fruit, sliced Oranges, Papaw, sliced Pineapple, Passion Fruit, stewed Prunes, stewed Figs, baked Apples, sliced Bananas, canned Pears and Apricots.

Fresh fruit was supplied at every meal, and Apples and Oranges were issued to the state-rooms every afternoon.

Fruit is cheap in San Francisco, and I am bound to express the opinion, that this, in a large measure must account for its ready consumption by the public. Here are some of the prices I noticed in Market-street, one of the main thoroughfares (comparing, say, with George-street, Sydney):—Sunkist Oranges, 6 for 10d.; smaller Oranges, but of excellent quality, 4d. a dozen; Grape Fruit, 8 for 1/-; dried Figs, 4 to 5 lbs. a 1/- (loose), 2 lbs. for 1/-, wrapped in transparent paper; Strawberries, 6d. to 7½d. per lb. punnet; Sultanas, 7½d. lb.; cluster Raisins, 7½d. per lb.; dried Pears, 7½d. per lb.

VICTORIAN FRUIT COUNCIL.

At a meeting of the Executive held in Melbourne on June 7, Mr. J. H. Lang presiding, deputations were appointed to bring the resolutions of the Beaconsfield Convention before the authorities concerned.

It was resolved, on the motion of Messrs. J. W. Bailey and W. F. Cooper, that a recommendation be forwarded to the Department of Markets and Migration urging that, in addition to the Commerce Act brand, "1 bushel apples, Australia," the name of the individual State be added.

On the motion of Messrs. Bailey and Finlay, it was decided to forward a copy of the speech by the Minister for Markets and Migration, explaining the provisions of the Fresh Fruits Overseas Marketing Act, together with a copy of the Act, to every exporting grower prior to the vote of growers being taken in the spring. It was also decided to reprint 1,000 copies of the proceedings of the Beaconsfield Convention, together with papers read there, for distribution amongst associations.

Subsequently a deputation consisting of Messrs. J. H. Lang (Harcourt), F. Thomas (Bunyip), J. W. Bailey (Narre Warren), W. F. Cooper (Lancaster), F. Clayton (Kyabram), S. Cornish (Ardmona), R. M. Finlay (Diamond Creek), and the Secretary (W. H. Carne, Pakenham Upper), waited on the Minister of Agriculture (Mr. Slater) with whom were the Honorary Minister (Mr. Cain), the Director of Agriculture (Dr. S. S. Cameron), and the Superintendent of Horticulture (Mr. J. M. Ward). The deputation asked that closer supervision should be exercised over fruit trees in private orchards and neglected orchards, that the department should supply traps for rootborers at cost price; that fruitgrowers should be empowered to impose some form of orchard tax to raise funds for the proper organisation of the industry; that a rural bank should be established; that the Ministry should provide money for the establishment of research stations in different parts of the State; that the horticultural branch should be severed from the Agricultural Department; and that improvements should be made at the Victoria Markets.

Replying sympathetically, Mr. Slater said that one of the first acts of the new Ministry would be to introduce a bill providing for the establishment of a rural bank. He would consider whether two or three additional supervisors could be appointed

for closer supervision of private orchards. As the rootborer traps cost less than sixpence each, it should be possible for the fruitgrowers organisation to negotiate for the supply of the necessary quantities at cost price.

Mr. Slater indicated that he could not give a definite answer to the request for research stations at the present time, but the Department should do everything possible in that direction.

The proposed separation of the horticultural branch from the department was not regarded favourably by departmental officers, as it would mean that horticulturists would lose, to a considerable extent, the benefit of the services of the various experts attached to the department. Mr. Slater agreed that the Victoria Market was "absolutely unfit for the purpose for which it was established." The appointments were obsolete, and improvements would receive the immediate attention of the Ministry.

Later a deputation consisting of Messrs. Lang, Bailey and Carne waited on the Comptroller-General of Customs (Mr. R. M. Oakley) asking for the simplification of the procedure by which growers obtained a rebate of duty on imported softwood cases used for export of fruit, and for an enquiry into the remission of duty last year on imports of foreign tomato pulp.

Mr. Oakley stated that the Tariff Board was now preparing a report on timber. He would consider the suggestion that fruit inspectors should also inspect cases for rebate. The remission of duty on tomato pulp had been investigated, and those directly concerned had been satisfied with the result of the inquiry, and a promise that it was not the intention of the Ministry to make further concessions. In future any proposed concessions would first have to be submitted to those interested in the industry concerned.

VICTORIAN FRUIT EXPORTS.

The Superintendent of Exports (Mr. R. Crowe), of the Department of Agriculture, has submitted a list of produce exported overseas from Victoria (under Government inspection) during the period 1/7/26 to 2/6/27, which includes the following figures relating to fruit:—

Fruit.	Quantity. Cases.	Value,
Fresh	32,563	£19,511
Dried	730,208	1,198,352
Canned	155,925	232,259
Jam	8,318	12,469
Honey	1,376	1,383

FRUITGROWERS' COOL STORES ASSOCIATION OF VICTORIA.

At the quarterly meeting, held in Melbourne, on June 7, a good attendance of delegates decided to thank the Department of Agriculture for steps already taken re control of root borer beetle, and to urge the continuance of the investigations.

It was decided that the Minister for Markets and Migration be requested to take the poll of growers on the Export Control Bill, based on the two seasons previous to the passing of the Bill, in lieu of the two seasons previous to taking the poll, on account of fruitgrowers being disfranchised through crop failure caused by the thrip pest this season.

A resolution that the Cool Stores Shield competed for at the Royal Agricultural Show be awarded to the store whose exhibit of fruit held up best for the duration of the Show, was carried.

The meeting commended the Big Brother Movement to members, and passed a recommendation that when fruitgrowers had an opening for one of these boys, they should get in touch with the movement.

Reports of the Warrnambool and Upper Beaconsfield Conventions were received. A resolution submitted by Tyabb regarding the advisability of the Association extending its activities to embrace the whole of the interests of the industry, was discussed and referred to the Annual Conference.

The invitation by Croydon to hold the Annual Conference in that district during August was accepted. Affiliated Societies are asked to forward items of business for the Conference to the Secretary (Mr. J. G. Aird, Ringwood), before August 1. It was decided to ask the Premier to open the Conference, and to invite Dr. Kidd, of the Cambridge Low Temperature Research Station, to address delegates.

UNITED STATES FRUIT CROP PROSPECTS.

According to a report by the United States Department of Agriculture early in May, in most parts of the country, prospects for fruits have been reduced by late frosts or by the failure of apple trees, which bore a heavy crop last year, to produce the usual number of blossoms. While it is too early to make a reliable estimate there seems little reason to expect the fruit crop to differ far from the average of the last five years. There is hardly an important State where prospects are as good as they were at this time last year.

New Zealand.

Fruit Exports and Imports : Developing the Canning Industry
A New Apple

NEW ZEALAND'S FRUIT EXPORTS AND IMPORTS.

FIGURES issued by the Census and Statistics Office, Wellington, indicate that total exports for the year ended March 31, 1927, amounted to £45,682,338, and imports to £48,192,670, leaving an excess of imports of £2,510,332, as compared with the previous financial year; exports, £48,697,587; imports, £53,025,856; excess of imports, £4,328,269.

Fresh apples exported during the year ended March 31, 1926, totalled 7,648,196lb., worth £105,631; 1927, 32,430,508lb., worth £419,223. This shows an increase of 24,782,312lb., valued at £313,592.

In April, 1927, 7,427,558lb. of apples were exported, worth £92,184, as compared with 12,871,358lb., worth £162,189, in April, 1926. For the four months ended April, 1927, 11,949,520lb., worth £148,613, were exported, compared with 12,931,662lb., worth £163,233, for the similar period of 1926.

Considerable quantities of fruit are imported. For the four months ended April, 1926, and 1927, the following figures are given:

	1926.	1927.
Fruits, bottled & preserved in syrup, doz.	—	109,281
Value	£36,471	£41,623
Dried Fruits—		
Apples and Apricots		
lb.	257,653	430,376
Value	£13,690	£20,756
Currants		
lb.	305,846	267,599
Value	£7,410	£7,291
Dates		
lb.	1,147,078	630,608
Value	£12,182	£9,490
Figs		
lb.	180,211	177,897
Value	£3,524	£3,421
Prunes		
lb.	786,516	642,734
Value	£13,017	£9,019
Raisins		
lb.	2,813,416	2,268,288
Value	£72,337	£50,448
Other		
lb.	33,367	21,383
Value	£1,333	£864
Fresh Fruits—		
Apples		
lb.	13,680	232,400
Value	£138	£2,692

Bananas		
lb.	6,643,472	7,854,280
Value	£43,813	£50,218
Oranges and Lemons		
lb.	1,727,632	2,601,167
Value	£26,116	£43,158
Other		
lb.	509,501	541,141
Value	£8,420	£7,338

CANNED FRUIT INDUSTRY.

Planting in Nelson.

Auckland orchardists will be interested in the results of an enterprise which has been undertaken in the Nelson district for the development of the canning industry. Kirkpatrick & Co., the old-established firm whose business was taken over by Henry Jones & Co., of Australia, purchased 175 acres of land near Motueka for the purpose of growing fruit for canning. This land has an alluvial soil said to be over 10ft. deep. It was found that while plenty of fruit was grown in the Dominion in different localities it was not of the kind most suitable for canning. This Motueka acreage has been planted as to 140 acres, in peaches, apricots, and a few pears. The trees were specially imported from Australia, and planted by experts from the Commonwealth.

As a rule canners in Australia and Tasmania purchase the fruit from growers, but in this instance, in order to obtain the requisite article, the canner has turned grower. The growth made in this inaugural experiment has been beyond expectations, and better than is the experience in Australia. The intention of the company is to go still farther in planting for canning in the Nelson district. It is hoped that in a comparatively short time New Zealand will be made self-supporting in the matter of canned fruits requirements. —“N.Z. Fruitgrower.”

A DELICIOUS APPLE SPORT.

A writer in the “New Zealand Fruitgrower” states that last year a freak was found in a Delicious apple tree at Poverty Bay, the freak taking the form of a branch on which the fruit was distinguished by a remarkable colour strength, the apple being a beautiful scarlet all over, instead of streaked as is characteristic of the variety in its normal development.

This year the “sport” has occurred on two other properties. According to the orchard instructor (Mr. McIndoe), one of the recognised faults in the Delicious variety is the liability to damage through the calycene canal remaining open, allowing fungoid spores to penetrate to the core from the calyx. When, as in the case of the recently discovered sport, a departure is made from the true characteristics of the variety in one respect, there is a possibility that other divergencies may develop. This holds out the hope that the freak will eventually produce a tighter “eye” than is found in the normal variety. Again, though samples of the fruit from the freak branches do not as yet show important indications of such development, it may be found that there is less liability to the roughness about the calyx which sometimes leads to waste in the preparation of the Delicious for table purposes. The outstanding feature of the sport is its solid colour, which in a district where colour standards are lower than in Poverty Bay, would be highly valued as an asset in the export trade. In the case of Gisborne orchards, this characteristic has no supreme value, for the colour standard here is high. The freak is capable of cultivation, however, for it is amenable to budding or grafting in the ordinary way.

SALE OF AUSTRALIAN APPLES IN HOLLAND AND DENMARK.

Mr. H. G. Colombie, Temple Court, Melbourne, has received advice from his principals:—Prices realised for Australian Apples in Rotterdam and Copenhagen on May 31 as follows:—

Rotterdam.—Tasmanians: C.E., approx. 18/-; C.O.P., approx. 15/-; T.F., approx. 17/- to 19/6; Cleos, approx. 17/- to 19/6; N.Y.P., approx. 17/- to 18/6; R.P., approx. 18/-.

Copenhagen. — West Australians: Cleos, 13/6 to 21/6; Dunn's, 16/3 to 20/-; Jonathans, 16/3 to 19/6.

In a further report on June 10, Mr. Colombie states he has received cable advice from his Copenhagen principals that they had effected a further sale of West Australian Apples ex Esperance Bay, at the following prices:—Dunn's, 18/- to 20/-; Cleos., 16/3 to 21/6; Jonathans, 13/- to 21/-.

Mr. Colombie's Rotterdam principals also cabled the sale of West Australian Apples, as follows:—Granny Smith, 18/- to 19/6; Rokewoods, 17/9 to 20/-; Dunn's, 19/- to 20/-.

Canning Fruits.

BUG-MARKED PEACHES.

A Chemical Method of Preparing for Canning.

AN INVESTIGATION has been conducted by the Science Officers of the Victorian Department of Agriculture to determine a chemical method of removing the marks of Rutherglen Bug (*Nysius vinibor, berg*) from Peaches prior to canning, and the following report to the Director of Agriculture, by Messrs. W. R. Jewell, M.Sc., B.Met., F.I.C., F.A.C.I., Agricultural Research Chemist, and G. T. Levick, B.Agr.Sc., Assistant to Entomologist, is reproduced from the "Journal of Agriculture."

Introduction.

The damage caused to Peaches by the Rutherglen Bug takes the form of brown marks, from 1-64 to $\frac{1}{8}$ inch in diameter, and extending into the flesh to a maximum depth of about 1-16 of an inch. These spots are clearly visible on Peaches that have been badly punctured, but with those that are only slightly affected, the damage is not apparent until after the skin has been removed. The bug-mark does not affect the wholesomeness of the fruit.

Although microscopic examination showed that the cell walls had not been ruptured, there was apparently some alteration in texture accompanying the discoloration, as Peaches badly marked always exhibited a roughened, tough exterior after the removal of the skin.

It is probable that the brown discoloration is the result of oxidation following the puncture of the skin by the bug, but there is no definite evidence that the bug does not inject into the Peach some substance which aids discoloration. It would appear that marks made in the early stages of development of the Peach persist subsequently and increase in size as the Peach grows.

The problem of finding a chemical treatment which would make these Peaches fit for canning was made more difficult by a number of limiting factors:—

(a) The Peach must be edible after treatment and subsequent canning; (b) The provisions of the Pure Foods Act prohibit the addition of any preservative or foreign matter other than syrup; (c) The cost must not exceed at most £4 per ton of fruit if the treatment is to be a commercial possibility; (d) There must be no re-

currence of the marks during canning or subsequent storage.

Review of Experiments Conducted.

As the investigation proceeded it was clear that the problem could be attacked along three lines:—(1) To bleach the marks after the removal of the skin; (2) To bleach the marks before the removal of the skin; (3) The complete removal of the affected zone.

(1) The skin is removed by passing the halved Peach through a weak boiling solution of caustic soda, followed by washing in a revolving drum under a spray of water. It was found that the marks were most difficult to remove, even with the strongest bleaching agents. Strong sulphurous acid was the only re-agent found to be at all efficacious, and even then about three hours' immersion was required. The Peach was not edible after treatment, nor did it comply with the Pure Foods Act.

It is unnecessary to enumerate the many bleaching and other re-agents that were tried. It was concluded that, with the limitations imposed, it was impracticable to bleach out the marks after the skin had been removed. There was some evidence to show that the skinning process aggravated the trouble by increasing the resistance of the marks to bleaching.

(2) After a large number of unsuccessful experiments on Peaches before the removal of the skin, it was found that two minutes' immersion in boiling 1 per cent. citric acid solution (and, to a lesser extent, in boiling water alone) made a considerable improvement. Some Peaches thus treated showed practically no marks after skinning, while in others the number of marks visible was considerably reduced. Unfortunately, this treatment affected only the surface of the marks, and when the process was tried out on a commercial scale, it was found impossible to prevent the caustic bath from removing some of this altered surface layer, thus exposing the brown color underneath. Even if this treatment removed 95 per cent. of the marks on the Peach, the treated Peach was still unfit for canning because of the remaining 5 per cent. Further, the efficacy of the treatment appeared to vary with different varieties of Peaches, and it was clearly evident that the process was not satisfactory on a commercial scale.

(3) Apart from the fact that attempts to bleach the marks were unsuccessful, the rough, tough surface of the marked Peach prevented its

being a perfect canning fruit, even if the brown color were removed. Hence experiments were next carried out to ascertain if the whole affected area, to a depth of approximately 1-16 of an inch, could be removed by chemical means, without adversely affecting the remainder of the Peach.

A satisfactory solution

to this problem was found while investigating the actual effect of the caustic soda skinning bath.

A boiling, dilute solution of caustic soda removes the skin by dissolving the pectin cells that exist between the skin and the Peach proper. Text books on canning state that dilute caustic solutions have no effect on the Peach itself, except after prolonged immersion. Ordinarily from 1 to 5 per cent. solutions are used, and the normal loss by skinning is said to be about 10 to 12 per cent. It is difficult to see how this loss can be accounted for unless some of the Peach is dissolved or unless the layer of pectin cells is much thicker than supposed.

Skinning experiments were conducted, using 1, 2, 3, 4, 5 and 10 per cent. caustic solutions, the time of immersion in each case being 30 seconds. With 1 per cent. solution the loss in weight was about 6 per cent. With from 2 to 5 per cent. solutions the loss was from 9 to 10 per cent., while with 10 per cent. solution the loss on skinning was about 14 per cent. In order to determine whether the caustic soda actually did dissolve some Peach tissue as well as pectin cells, these skinned Peaches were again immersed in the boiling soda solutions for a further 30 seconds. The 1 per cent. solution removed a further 10 per cent. of the original weight of the Peaches. The 2 to 5 per cent. solutions removed a further 12 to 13 per cent., and the 10 per cent. solution a further 16 per cent. These results, of course, would vary with the state of maturity of the Peach.

These experiments demonstrate that boiling, dilute, caustic solutions do actually attack the Peach tissue even during very short immersion; but what is more important, they provide a very simple solution of the problem under investigation. It was found that the second immersion, followed by washing, removed the whole of the marks and altered tissue, and left a perfectly sound Peach, unaffected by the caustic soda and entirely free from this re-agent, with sharp edges and a surface as smooth as that of an originally unblemished Peach. Even Peaches badly marked by the bug could be successfully treated by a further immersion for 30 seconds.

Treatment Recommended.

The treatment recommended is as follows:—Adopt the ordinary practice of using a 3 per cent. caustic soda solution in the skinning bath and immerse for 30 seconds. After washing, remove marked Peaches as usual at the inspection belt and return to the skinning bath. Badly marked peaches require a second treatment. The process introduces no extra machinery or solutions into the cannery. Marked Peaches, whether for a first or second treatment, are removed and returned to the caustic bath along with fresh Peaches entering the bath. The only extra cost involved is the labor necessary to carry the Peaches from the inspection belt to the caustic bath, plus a little extra caustic soda, a matter of a few shillings per ton of fruit.

Commercial Scale Experiments.

This proposed treatment was carried out on a commercial scale at a cannery, and the following are typical of the results obtained:—

A. 70 Peaches, specially selected as showing no bug-marks, were skinned, after which 52 were perfect while 18 (or 26 per cent.) showed bug-marks, and, therefore, were not suitable for canning. These marks were not visible prior to skinning. The 18 marked Peaches were put through the caustic bath again, and 16 (or 90 per cent. of those marked) came out perfect, while two still showed marks. These two were unmarked after a further immersion.

B. 108 Peaches showing bug-marks were skinned. Thirty came through clean and 78 were marked. For purposes of comparison, 18 of these were canned without removal of marks. The remaining 60 were retreated, after which 45 (or 75 per cent.) were clean and 15 still showed bug-marks. Of these, all but one were free from marks after a further immersion.

Sound Peaches and marked Peaches that had been once and twice treated were then passed through all operations to the finished, canned article. On opening these tins, experts stated that it was impossible to distinguish between sound and treated Peaches as regards color, texture, perfection of cooking and taste.

The proposed process is remarkably simple and cheap, perfectly effective, and without any deleterious effects on the Peach.

The adoption of this simple and harmless process should mean a considerable saving to canneries on Peaches, which, although apparently clean, still show bug-marks after skinning. It should also benefit growers to a very large extent in that fruit that has heretofore been rejected can now be successfully treated and canned.

Summary.

1. The problem of finding a chemical treatment to make fly-marked Peaches fit for canning was made more difficult because of a number of limiting factors.

2. It was found impossible to bleach the bug-marks after the removal of the skin, except after prolonged immersion in strong sulphurous acid. The Peach was not edible after this treatment.

3. Two minutes immersion in boiling 1 per cent. citric acid solution (and, to a lesser extent, in boiling water alone) before skinning, made a considerable improvement. But as the improvement was not complete and was at best only superficial, the process was not commercially successful. No other method of bleaching was found that was at all effective prior to skinning.

4. Contrary to published statements, boiling, dilute, caustic soda solutions re-act with the Peach tissue, even when immersed for very short periods.

5. It was found that immersion for 30 seconds in dilute, boiling, caustic soda solution removed the marks and the altered tissue from bug-marked skinned Peaches. The treated Peach is perfectly sound, is unaffected by the alkali, and has sharp edges and a surface as smooth as that of an originally unblemished Peach.

6. In practice bug-marked Peaches can be made fit for canning by passing them a second time through the skinning bath, after they have been removed from the inspection table subsequent to skinning. A 3 per cent. caustic soda solution is recommended in the skinning bath and the immersion should be about 30 seconds. Badly marked Peaches will require a second treatment.

7. This process is very simple, cheap and effective. Peaches so treated were canned, and it was impossible to distinguish them from Peaches originally unblemished. The treated Peach is perfectly wholesome (as would be expected, seeing that Peaches normally pass through the soda bath), and complies with the requirements of the Pure Foods Act. Considerable saving should result, both to canneries and to growers.

AUSTRALIAN CANNING FRUIT-GROWERS' ASSOCIATION.**Further Plantings Opposed.**

The Annual Meeting of the Central Council of the Australian Canning Fruitgrowers' Association, was held at Leeton, N.S.W., on June 6, representatives attending from Kyabram;

Ardmona, and Shepparton, Victoria, and Griffith, Yenda, and Leeton, N.S.W. Mr. Rutledge (Yenda), presided.

The annual report was read by the Secretary (Mr. F. J. Churches), who said that the outstanding fact of the past season was the higher price paid for canning fruit, viz., £12 and £13 per ton, which resulted in approximately an additional £50,000 being received by the fruitgrowers of the Goulburn Valley and the N.S.W. Irrigation areas. This was achieved at a cost of only ½d. per ton for Victoria and ¾d. for N.S.W. In immediate need was for the erection of cool stores in conjunction with each cannery, in order to lengthen the processing season. The Victorian Government had recently been asked to extend research work in experimental orchards, with a view to finding new canning varieties. A request had also been made for an exhaustive enquiry into the prospects of the industry.

During the afternoon session the Minister for Markets and Migration (Hon. T. Paterson) paid a hurried visit to the conference, and was asked if the Government would continue to provide bounties on canned fruits, attention being drawn to the conditions attached to the bounty of 1/6 per doz. 30oz. tins canned peaches for the 1926-27 pack, which stated: "That in future the canners must arrange amongst themselves to bear the loss of export."

It was stated that a bounty of 1/6 was not sufficient to cover export losses.

The Minister, in reply, said that the bonus system on exports could not be continued indefinitely. Other means were being taken to improve conditions, and British preference for Empire goods was continually increasing. He regretted that he could hold out no immediate hope for greater relief.

Mr. J. B. McDonald (Shepparton) raised the question of immigrants being urged to take up fruit production, when already the market was overburdened.

Mr. W. H. Moses (Griffith) pointed out that the Readjustment Board was throwing quite a lot of land in that district out of fruit bearing. Other delegates referred to the seriousness of the position, and deprecated the migration policy being applied to this industry. It was resolved, on the motion of Mr. Churches, seconded by Mr. Moses, "That the conference views with regret the decision of the Minister for Markets and Migration

in fixing an inadequate bounty of 1/6 on export canning fruits."

Comparison was made of the methods adopted in the Goulburn Valley canneries and in New South Wales. In the former all grading is done in the orchard, and growers themselves throw out at least 15 per cent. of the fruit. Four or five pickings are made for quality.

Mr. Rutledge was re-elected President of the Council, with Mr. W. Young (Ardmona) Vice-President and Organiser. Owing to the retirement of Mr. Churches from the secretaryship, Mr. Rushton (Secretary, Northern Victoria Fruitgrowers' Association), was appointed.

CONSUMPTION OF U.S. CANNED FRUITS IN GREAT BRITAIN.

EFFORTS HAVE BEEN MADE recently to establish the fruit canning industry in England on sound lines, and the following article from "The Fruit Grower" indicates the competition that English as well as Australian canners have to face on the British markets.

The many associated with the rapidly advancing British fruit canning industry will analyse with interest the latest official figures showing the consumption of U.S. goods in this country last year. They may well be astonished by the amazing proportions assumed by these imports, but at the same time these figures should give them courage with the realisation of the vast opportunities that lie before them. These following figures are percentages of the total U.S. exports of the line under discussion for the year 1926.

Here are some of the outstanding varieties:—Apples and Apple sauce, 92.3 per cent.; Apricots, 83 per cent.; Peaches, 79.7 per cent.; Pears, 87.1 per cent. For those lines, indeed, it may be said that Great Britain constitutes the trade of the U.S. industry, and it will be surprising to some that the seemingly favorite Pineapple only records 33 per cent. for the U.K., with Canada and Germany together equaling that figure. More vital are the lines such as Apples, Pears, Apricots and Peaches. Cherries are a smaller line, and there the U.K. is, for a change, not first but third on the list, with 11 per cent. But there is another heading which is vague enough to cover a multitude of things. It reads: "Other fruit: U.K., 76.8 per cent." This must include such soft fruits as Currants, Loganberries, Raspberries, and probably Strawberries—all fruits that excel in English soil and ready to be canned a few hours after picking. They ought to be on sale before

parallel crops abroad have crossed the Atlantic. And if these powerful percentages are not enough to convince the home industry of the great opportunities awaiting them, there are even more imposing figures in pounds weight:—

Apples and Apple sauce, 14,318,506 lb. (an increase of 15.8 per cent.); Plums are not given, but in 1925 they totalled 2,715,633 lb. "Other fruit" at 22,745,782 lb. is up by 14.7 per cent., but Apricots, Peaches and Pears show decreases, the last two by over 20 per cent. each, which looks encouraging.

We have every reason to hope that next year these figures will be noticeably lowered. They will be if the present British policy is expanded and scientific and unrelenting publicity is constantly pursued.

any benefit. About three years ago there was created a Dried Fruits Control Board, which told the growers they must export a certain percentage of their crop whether they wished to or not. More men had been put into the industry than the industry could carry, and the board had decided that each man should have an equal share of the local market, the men new to the industry sharing equally with the men who had spent a lifetime in establishing the business.

It was now proposed to establish a Fresh Fruit Control Board provided the growers voted in its favour. He strongly urged growers to vote against its introduction. Under existing conditions early in each season



A Basket of Fruit presented to H.R.H. the Duchess of York by the Castlemaine Horticulture Society on her visit to the district. Apples from the Harcourt Exhibit at the recent Castlemaine Show, and Autumn Foliage.

FRESH FRUIT EXPORT CONTROL BILL.

Defence Association Formed.

A large number of growers attended a meeting at Pakenham in the Mechanics' Institute Hall to consider the formation of a Fresh Fruits Export Defence Association to oppose the Fresh Fruit Control Bill.

Mr. T. Fuller, who was voted to the chair, briefly outlined the object of the meeting, and introduced Mr. C. H. Jost, of Quantong. Mr. Jost said he had not come to Pakenham to teach the growers their business. Plainly stated, he was there to ask for their assistance. In Quantong there were 51 families who had been making a living for 30 years, and all their fruit went through their own association. All were doing fairly well, but some time ago there came into existence a State Marketing Organisation. This body, by its methods, cost our growers some £600 during the first month of its operations. It had cost the Government some £2,000, and no one had gained

buyers probably representing London houses came to the growers, and sales were made. If anything were done to interfere with these operations prices were bound to suffer.

The speaker asserted that Boards had not increased the price of any commodity, but had been an added expense on the producer.

In conclusion, he said he had not come to persuade any grower to vote one way or the other, but as the representative of 51 growers in his district he would be pleased if the meeting could form a Defence Association, as his growers had done.

After a general discussion Mr. A. Hone moved that a Defence Association be formed, seconded by Mr. A. Hone, and carried.

A vote of thanks was accorded Mr. Jost for his attendance, on the motion of A. Hein and L. Brown. Following the meeting, a Defence Association was formed, and Mr. W. Grant was elected president. Messrs. R. Ramage, A. Hone, A. Hein, W. Black and Hammond were elected to the committee, and 24 members were enrolled in the room.

Victoria

Fruitgrowers Meetings :: Fruit Crop Report :: (See also p. 264)

METROPOLITAN FRUITGROWERS' ASSOCIATION.

Annual Meeting.

THE FIRST ANNUAL MEETING of the newly-constituted Metropolitan Section of the Victorian Fruit Council was held at Box Hill on June 9, Mr. J. Tully presiding. Visitors included Cr. J. Jordan, J.P., Cr. J. R. Ellingworth (Mayor of Box Hill), Messrs. W. H. Everard and E. W. Greenwood, M's.L.A., and A. E. Chandler, M.L.C., and Mr. J. M. Ward, Supt. of Horticulture.

In opening the meeting, Cr. Jordan, who has long been associated with the fruit industry, and the old Metropolitan Association, commented on the condition of Australian fruit on English markets. Much of it, he said, was of good quality, and the criticisms which had been levelled at Victorian fruit were uncalled for; but in some cases the packages used did not compare favorably with those from other parts of the world.

In presenting the annual report, the Secretary (Mr. J. W. Aspinall), said that in accordance with the decision of the Portland Conference last year, the Victorian Fruit Council was formed, consisting of three representatives from each of the Sections—Apple and Pear Growers, Northern, and Metropolitan, which had been reconstituted to take over the activities of the old Metropolitan and Districts Fruitgrowers' Association. During the year matters which had received attention from the Executive included the question of hours at the Victoria Market; the Fruit Export Control Bill, which was strongly opposed by the Metropolitan Section; suggested Plum Pool—abandoned owing to the losses from thrip; N.S.W. Farm Produce Agents' Act; fumigation of citrus trees, etc. Owing to the adverse season, the proposed extension of kerb markets was postponed, and there was some difficulty in supplying those already established. Six were in operation during the year, and it was satisfactory to note that several municipalities were now erecting markets.

It was decided, on the motion of Mr. W. Lipscombe (Croydon) to convey to the Minister for Agriculture a resolution thanking past Governments for help rendered whereby the distribution of fruit through kerb markets had been carried out, and to appeal for

assistance for the coming year.

After discussion, re the opening and closing hours at the Victoria Market it was decided, on the motion of Messrs. Finlay and Lorimer, to reaffirm the resolution carried last year strenuously opposing stallholders being asked to remove from their stalls at 8 a.m.

It was stated that the Superintendent of Markets (Mr. G. B. Minns) had lately received resolutions from both the Market Gardeners and the Retail Fruiterers' Associations, strongly opposing any alteration in the hours.

The Hon. E. A. Chandler, M.L.C., strongly urged growers not to relinquish any of their rights in regard to the market, which had been established for the primary producers.

Fumigation of Citrus Trees.

The question of compulsory fumigation of Citrus trees in the Doncaster district was discussed at length. Mr. J. Stevens, in moving that the incoming Executive be authorised to take steps to protect the growers, stated that many growers were opposed to compulsory fumigation. They had had practical experience extending over a great number of years, with both oil spraying and fumigation, and considered fumigation no better than, if as good as, the oil spray, and much more costly. Some growers in the district had asked the Department to fumigate their trees. In his case they certainly killed the scale pretty well, and practically killed a couple of his very fine trees. Mr. Stevens held that while growers got good results from spraying, the Department should not take up this drastic attitude and compel men to fumigate. The motion was seconded by Mr. J. Petty.

In regard to costs, Mr. A. F. Thiele pointed out that fumigation needed to be done only once in three years, whereas spraying must be carried out every year. He had his own fumigation plant, and had been fumigating for a number of years with great success. When the time used in spraying every year was considered, fumigation was the cheaper.

Mr. Lipscombe pointed out that growers needed the assistance of the Agricultural Department in controlling orchard pests and diseases, and urged careful consideration before criticising their action.

The Superintendent of Horticulture (Mr. J. M. Ward) outlined the development of fumigation in Victoria. Following numerous requests from the

organised Citrus growers (representing something like 85 per cent. of commercial growers), the Department was authorised by the Government to get several sheets and the various fumigating materials available. These were very thoroughly tested on 1,000 Citrus trees (a 10-acre orchard) in the Goulburn Valley, and again on Lemon and Orange groves in the Metropolitan districts. In every instance there was from 95 per cent. to 100 per cent. kill of scale. The Department was quite satisfied with the tests, and approval was given to secure three plants, which started in the Mildura, Swan Hill and Goulburn Valley districts. They were continually receiving more and more requests from growers for this work to be done, and the number of plants had been further increased. At the recent Citrus Conference, a resolution was passed, asking the Government to provide two more plants, as growers were more than satisfied with results.

Last year a request had been received from the Metropolitan growers, asking for fumigation to be undertaken in the Metropolitan area. At the growers' request, the Department spent £600 on providing a plant for the metropolitan district, where 7,500 trees had been fumigated, and of the 65 growers concerned, complaints had been received from about eight. Of the 7,500 trees, one-third of a tree and one small tree had been injured. How many trees had been injured by spraying? Altogether this year the Department had fumigated 46,000 trees; on the last few days of fumigation there was a little burning in one or two areas, due to some cause over which the human element had no control.

The Department was searching for the best plant and materials; they had pioneered the way, and other States were watching what was being done. Mr. Ward reminded the meeting that at the Beaconsfield Conference, a resolution was unanimously carried, asking the Department to be more stringent in dealing with diseased trees. Growers were continually asking the Department to bring in more regulations, and as soon as they were put into effect, some cried out against them.

The matter of ordering growers to spray or fumigate for red scale was left in the hands of the Orchard Supervisors, because there were some outlying districts where it was not desirable to insist on fumigation; but experience had shown that if a district were fumigated and one or two orchards not done, complaints were received from other growers who had gone to the expense of fumigating.

Mr. E. W. Greenwood, M.L.A., pointing out that the fruit industry had had more help from the Government than any other, urged growers not to indulge in captious criticism of the Department and its officers, who were doing their best to help. Growers should work in harmony with the Department, instead of criticising it for doing what it had been asked.

Replying to Mr. Thiele, Mr. Stevens said it cost him something like 2/7 a tree for fumigation, whereas with oil spraying it cost 8d. a tree, including labor; over three years that would be 2/- a tree—less than fumigation.

On the motion of Mr. Lorimer, it was decided that the motion be withdrawn.

Fresh Fruit Export.

Mr. C. H. Jost, of Quantong, who attended by invitation, asked for assistance in defeating the Fresh Fruits Overseas Marketing Act. His organisation had been very successful, and had built up a reputation among the buyers, who came to the district and offered a price for the fruit, which growers could take or not as they liked. They did not want to sell their fruit on consignment. The Apple and Pear Growers' Association did not represent the industry. Quantong supplied one-twelfth of the export from Victoria in a good year. A Fresh Fruit Export Defence Association had been formed, and he asked if metropolitan growers were prepared to help in defeating the Government measure. Through their Defence Association they intended to see that every man in the district who was entitled to it got a vote, and used it. They wanted others to do the same. If the Government would help growers to put up an article that would sell, they would say "thank you"; they did not object to regulations to cut out the dishonest grower, but they did not want the Government to sell their fruit for them.

Dr. Soilleux (Ringwood), in moving that the Association take steps to urge growers to vote against the Federal Fresh Fruits Export Bill, said that despite the expressed opposition of 90 per cent. of the growers of Victoria (both in number and acreage), the Government had passed the Bill, but it was subject to a poll to be taken from growers of all States in August or September. The Association should get growers who had votes, to use those votes. As far as he could ascertain, the majority of growers in Australia were opposed to the Bill. Recently a paragraph appeared in the press stating that a meeting of Tasmanian growers on the Huon, had passed a resolution oppos-

ing the Bill: this was after the Minister for Markets and Migration had gone to Tasmania and talked to growers, who were said to be in favor of it. Tasmania was divided on the question. Western Australia was opposed. The Metropolitan Association had already expressed its opposition, but he asked growers to continue to use their endeavors to secure votes against the Bill.

The motion was carried.

Election of officers for the ensuing year resulted:—President, Mr. R. M. Finlay (Diamond Creek); Vice-President, Mr. W. Mock (Burwood); Committee, Messrs. L. Pepperell, J. Stevens, W. Lipscombe, J. Mitchell, W. J. Cook; Secretary and Treasurer, Mr. J. W. Aspinall.

The Annual Conference of the Fruitgrowers' Cool Stores Association of Victoria, will be held at Croydon during August. It is hoped that Dr. Kidd, of the Cambridge Low Temperature Research Station, will address the Conference.

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

VICTORIAN FRUIT CROP REPORT TO END OF MAY, 1927.

The Superintendent of Horticulture reports:—

Deciduous Fruit.

Owing to the recent beneficial rains, deciduous fruit trees in the non-irrigated districts have shown a marked improvement in the development of fruit buds, which augurs well for next season's crop. Prior to the rains, growers were becoming anxious, for, although the apple trees have carried a very light crop which favoured bud development, soil moisture was greatly lacking.

The quantity of fruit held in cool storage and by growers is very small as compared with the previous season. The three factors responsible for this were a very light crop, the high prices

ruling, and the poor-keeping quality of the fruit, owing, of course, to the growth of the apples due to the light crop.

Ploughing has been delayed owing to the absence of early autumn rains, and the sowing of green crops for manure has, in some instances, been adversely affected, as the rain came too late to allow of this work to be done at the usual time. Taking advantage of the moist condition of the soil, seasonable orchard work is now in full swing, and growers are looking forward hopefully to the coming season.

Viticulture.

The bounteous 1927 vintage has now been gathered, with the exception of a few late table grapes. Both dried grapes and wine are of excellent quality, and the yield has been abundant.

The almost rainless conditions that have prevailed throughout have been ideal for vintage work in all branches. A feature of this autumn is the magnificent table grapes to be seen in shops and on barrows, Waltham Cross (or Rosaki, to give it its correct name) being most conspicuous. The consumption of table grapes seems to be increasing in a gratifying way. Last year's statistics showed an advance of nearly 1,000 tons compared with the two previous seasons. This year should eclipse last year's table grape consumption of 3,600 tons.

The Ohanez grape seems to be coming into its own at last. It is plentiful on the local market, fetching round about 12/- per bushel case. Several experimental shipments have been made to London, Vancouver, New York, etc., whilst fair quantities have gone to New Zealand. Shipments of several thousand cases, well in advance of previous years, have been made to Eastern ports from Colombo to China.

Rain is now wanted in most districts to facilitate the deep early winter ploughing, so desirable in all vineyards.

Citrus.

The citrus crop for 1926-27 is now being marketed. Prices for Navel opened up satisfactorily, but growers, finding the fruit coloured, forwarded large quantities to the Melbourne market, with the consequence that the market is temporarily glutted, and prices have fallen to from 10/- to 14/- for best quality, and lower for inferior quality fruit.

There are not many large oranges this year, and the fruit coming forward is of good quality generally.



Fundamental Principles of Citrus Growing.

(By Redvers J. Blatt, Ph.D., of South Africa and California.)

(Continued from P. 199, May Issue.)

(3) Soil Fertility.

THIS SUBJECT is of the utmost importance to all agriculturists, but particularly the citrus grower, for citrus trees, being evergreens, demand far more from the soil than deciduous trees or annual crops. Outside of California, citrus growers do not realise the importance of this subject, for there are no authentic fertiliser experiments to bring home this fact.

The fertiliser bill

is, therefore, comparatively small compared with that of the California citrus grower. Owing to this lack of experimentation in South Africa and Australia, one cannot say definitely what is the best fertiliser treatment in these countries. One can, however, benefit by Californian experience, and judging from what the writer has seen in both these countries, the Californian programme of fertilisation ought to give good results in both Australia and South Africa. In any case, until we have more definite experiments, the writer knows of no better fertiliser programme, and we certainly cannot wait for the next ten years for these new experiments to show results before making some recommendation.

Californian Experience.

After seventeen years of thorough scientific investigation at the Citrus Experiment Station, Riverside, California, and a survey with regard to citrus fertilisation throughout the groves of Southern California, it was found that manure, organic matter in the form of green cover crops, and nitrates, were essential for the production of good crops. Furthermore, the best producing groves, irrespective of soil type or area, were those receiving between 250 and 300 lbs. of available nitrogen per acre—100 lbs.

coming from manures, another 100 lbs. from an artificial fertiliser containing nitrogen, e.g., sulphate of ammonia, and the rest from green cover crops, preferably a legume.

The experiments also showed that in California phosphates and potash were not necessary in an artificial fertiliser form, enough being in the soil or added in the manure to take care of the requirements of the trees. Nitrogen is, therefore, the only element added in an artificial fertiliser form.

Whether phosphates and potash should be added in an artificial fertiliser form to Australian citrus soils is not definitely known, and this matter will be settled only by a definite scientific experiment carried on for a number of years. Provided growers can have carefully controlled experiments, they may be able to settle this matter for themselves, but usually there are so many limiting factors with growers' experiments, that very little faith can be placed in the results. The phosphatic and potash content is not always a good guide as to whether trees need applications of these fertilisers. Because annual crops need phosphate and potash does not mean citrus trees do. It is a case of crop requirement, not soil requirement.

Make Your Own Experiments.

Growers who are anxious to try out any fertiliser experiments, and are prepared to carry on the work for a number of years, should apply nitrates plus phosphorus, nitrates plus phosphorus and potash, and nitrates plus potash to certain trees or rows of trees in definite experimental plots. This fertiliser treatment must have its control plot, where no fertiliser is applied, otherwise the

experiment is of little value. If growers find it difficult to carry on such an experiment for themselves, they ought at least to try the application of from 10 to 13 lbs. of complete fertiliser, analysing 6 per cent. nitrogen, 15 per cent. phosphorus, and 9 per cent. potash per bearing tree. Care must be taken to ensure that there is a check or control plot.

As has been stated before, nothing definite is known re fertilisation of citrus trees in Australia, but one is reasonably sure that manure and green cover crops will give increased returns. It is also more than likely that nitrogen in the spring in the form of sulphate of ammonia or nitrate of lime, if available, will ensure a better setting of the fruit. The following Californian citrus fertiliser programme is, therefore, suggested, and should at least be given a good trial.

Bearing citrus trees

should receive at least 2 lbs., preferably 2½ lbs. of available nitrogen per tree per annum. If the latter is aimed at, it can be made up as follows:—5-6 tons of cow manure per acre, applied in the autumn; a winter or summer cover crop of Peas or Beans, depending on the rainy season, and 5 lbs. of sulphate of ammonia, or 10 lbs. of blood. The manure will give 1 lb., the cover crop ½ lb., and the commercial fertiliser 1 lb., of available nitrogen per tree.

The sulphate of ammonia should be applied in the spring, preferably in two applications; the first just before the blossoms open, i.e., about two weeks before, and the second four to six weeks after blooming. This application in spring will ensure a good set of fruit, and will reduce the drop of young fruit, thereby increasing the crop considerably. Washington Navels, in particular, are liable to shed a great deal of their fruit in spring, and therefore need a stimulant in the form of quick acting nitrogen in order to help to set good crops.

The second application of nitrogen will help to mature the crop that is already set, and to carry the fruit through the summer months.

If good crops are to be borne consistently, growers will sooner or later have to resort to definite methods of fertilisation. Money invested in fertilisers is well spent, for the increase in crops will justify the expense. The above outlined programme ought not to cost more than 2/- per tree, depending on the location of the grove, the cost of manures, and the cost of growing the cover crop. The green cover crop will reduce the cultivating costs, and since it is grown in the rainy season, there will be no extra cost for water. The ploughing under of the cover crop may cost a little extra, but in any case weeds will have to be ploughed under and manure incorporated in the soil, and all this necessitates only one operation. By applying the manure in the autumn, the trees will begin to get the benefit in the late winter and spring, when most needed. As a result, there will be plenty of new growth which means large crops. It must be remembered that there is no substitute for manure, hence growers should move heaven and earth to obtain it. Many citrus growers keep fowls, pigs, and even dairies just for the manure.

(To be continued.)

COMBATING FROST IN ORCHARDS.

In view of the recent heavy frosts throughout Victoria, it is interesting to note how Californian citrus growers cope with them.

Orchard heating is regarded as frost insurance.

Orchard heaters placed between the rows approximately 40 or 50 to the acre; it is not always necessary to light all of them. A thermometer is placed in the orchard to denote the temperature. Heaters are lighted, generally speaking, about midnight, and burn till 7 or 8 a.m.

Frost and minimum temperature forecasts are issued by the Weather Bureau during the growing season, and in certain rather small districts where protection against frost damage is practised on a large scale, forecasts of minimum temperature to be expected from night to night are issued.

Heaters are also used for deciduous fruits about the blossoming period when there is danger of frosts.

The United States Department of Agriculture estimates an average yearly loss of more than 65 million dollars from frost. Nearly 3,000,000 heaters are in use in California alone. Various kinds of heaters are used,

some burning oil, some wood, etc.

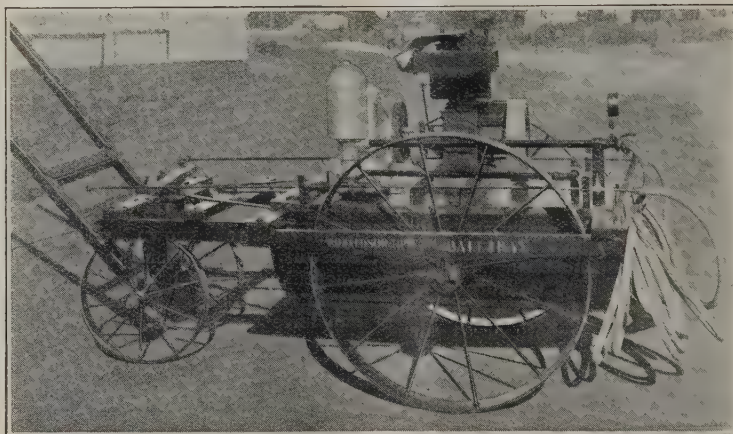
When oranges begin to freeze, the section of the skin exposed to the sky takes on a transparent appearance, generally known as the "water-mark," probably caused by the water in the rind freezing and leaving the oil separated. On the following day these oranges can be picked out easily and are called "shiners."

USING CULL ORANGES AND LEMONS.

California Citrus growers 12 years ago sometimes paid 1 dol. a ton for hauling away their cull Oranges and Lemons, estimated some years at 30 per cent. of the annual crop, they now realise an average of 12 dol. a ton from this sub-standard fruit. Investigations begun about 12 years ago by the Bureau of Chemistry of the United States Department of Agriculture have resulted in the development of processes for recovering citric acid as well as other valuable substances such as oil, pectin, juice, and pulp from Oranges and Lemons.—"California Cultivator."

now being put on the market, an illustration of which appears in this issue. It is known as the Ronaldson Tippet Spray Pump. The following are some of the main features of this pump.

The engine is the "Ronaldson-Tippett" Vertical Petrol Engine type, with enclosed crank-case. All main working parts are in oil bath, with automatic lubrication. The high-tension British Magneto cut out many intricate working parts, and guarantees low fuel consumption. Extreme simplicity combined with high-grade construction definitely assures reliability and ease of management, combined with long life and the minimum of duplicates. This engine is the latest "Ronaldson-Tippett" product, and is the result of a quarter of a century's experience of engine building in the largest and oldest factory in the southern hemisphere. The self-oiling double plunger spray pump, direct driven from the engine by gears, has all working parts completely enclosed and running in oil, ensuring long life and reliability.



The Ronaldson-Tippett Motor Spray Pump.

1926 U.S. EXPORTS.

The U.S. exported 2,695,000 boxes of oranges and 411,000 boxes of grapefruit during 1926. Contrasted with 1925, oranges increased 35 per cent. and grapefruit decreased 9 per cent. Values showed a growth, however, for both products: oranges £22,084,000; grapefruit £355,000. Potatoes declined 12 per cent. during 1926. Fruits in general showed a healthy increase.—"Citrus Leaves."

NEW MOTOR SPRAYING PUMP.

A new orchard spraying pump is

Cylinders are porcelain-lined. The gears are case-hardened and machine cut. The pinions are steel, machine cut, integral with pinion shaft. All working parts are removable. A pressure regulating valve relieves strain from the engine when not pumping. Standard equipment includes two sprays with rods, and 30 feet of hose for each spray. Spray guns are supplied at small extra cost.

The illustration shows a four-wheel plant; the manufacturer, Messrs. Ronaldson Bros. and Tippett, Ballarat, also supply a two-wheel type.

Queensland

Preparation for Planting :: The Council of Agriculture
Notes by our Correspondent

DRY CONDITIONS, and in some parts, particularly the Stanthorpe area, low temperatures have been recorded. Consequently growth is retarded or at a standstill. Some very good samples of Citrus fruits are being marketed at remunerative rates. The crop throughout is very light, for which in some districts the Orange-sucking moth is to an appreciable extent responsible.

The number of inferior trees in many orchards has for years been the subject of much criticism, but little action. The time is now opportune for heading these back to a few main arms for the production of young shoots in which to insert buds of desirable types next autumn. The question of limitation of varieties is receiving consideration, and it is anticipated will in the future result in much saving to the planter. Amongst round Oranges Byfield Seedless, Joppa Navels, and Valencia are the only ones recommended, and these are well adapted—with the exception of Navels—to all districts; but Mandarins are more exacting in their demands for most suitable conditions, and consideration must be given to the locality in selecting from Emperor, Excelsior, Glen Retreat and Scarlet.

The matter of protecting the rights of propagation of new varieties for several years has been advanced by the Citrus section of the C.O.D., but as the new varieties are the result of chance seedlings or sports, the justification is hardly recognised—if applicable, which is more than doubtful. Raising seedlings from specially selected fruit with the chance of effecting improvement on the original is unlikely to be a profitable undertaking as applied to Citrus, but opportunity offers in other lines—Pineapples, for instance, which from seed are productive in four years; also Strawberries, which, under very favorable circumstances produce fruit the first season.

New Banana Plantings.

Numerous visitors from Southern States have recently been enquiring for Banana lands, which, in the south of Queensland, are not plentiful, and the prices have risen in proportion. Leasehold land is being availed of, but the rentals where land is moderately situated as regards accessibility, do not leave much recompense for the toiler. An aversion is almost general to going north, where the conditions are much more favorable and good

land available at moderate cost. The climatic disadvantages are mythical, and exist only in the minds of those who have not been privileged to appreciate northern conditions.

Fruit Fly Destruction.

The registration of orchards in Toowoomba and surrounding districts has been (as a consequence of the fruit fly being proclaimed a pest, to be dealt with in this area by the Pests Destruction Board) responsible for comment, mostly adverse by the owners of what may be termed backyard gardens, where a few trees are included mainly to serve as breeding grounds and distributing centres for all available pests. The fruit fly is recognised as the greatest enemy of the fruit industry in the State, and as the Agricultural Department's administrators—with an entire lack of appreciation—have consistently ignored

Well-known London Firm of Fruit Importers and Brokers require reliable and efficient Representatives (either firms or individuals) for New South Wales, Victoria, South Australia and Western Australia, to influence Consignments of Apples, Pears, etc., commencing for the 1928 season, against the usual documentary credits. Will exchange Bank and Trade References, and arrange suitable remunerations. Write "B," C/o "Fruit Trades Journal," 1 Mike Court, Fleet-street, London E.C.4.

the voice of their experts and the expressed desires of commercial orchardists' organisations, it is pleasant to note that such indifference is not general. The Board is to be complimented on its action, which it is hoped may be extended to include the whole of southern and central Queensland. The advent of the Tariff Commission in Brisbane has given rise to the debatable subject, is the Tomato a fruit or a vegetable? We are accustomed to look upon it as a fruit, particularly as it comes within that province in rail transit, and also is included as such under departmental regulations. That the effect of the tariff on vegetables as against fruit would be much in favor of the Tomato grower if our deductions were accepted, exercised no influence at the time the decision was given effect to, and now that we are

up against Fiji Tomatoes in southern markets, are desirous that the definition be accepted by the Federal authorities, there being no recognised line of demarcation between "fruit" as generally recognised, and the "fruit" of the Pumpkin vine.

Botanically "fruit" has a very wide application, and that many are known as vegetables is merely a matter of convenience. In any case it is hoped that convenience will favor the Tomato being viewed from our aspect, as, in addition to being established as an important industry, the culture of Tomatoes as a subsidiary crop amongst young orchard trees is an important feature which enables the establishment of many orchards, which otherwise could not come into existence. The Tomato provides a fair share of the wherewithal for orchard maintenance until the trees become profitable.

EARLY SOIL PREPARATION FOR FRUIT TREES.

If the land intended for new planting is in fit condition for ploughing and subsoiling, it is a good plan to have the work done as early as possible, as moisture is thereby conserved. The soil is also put in a condition in which it will absorb any rains that fall, and thus no hold-up will occur at planting time through the land being too dry.

Except where the subsoil is of such a nature that it is undesirable to encourage the roots to strike into it, the land should be ploughed and subsoiled to a depth of 15 or 18 inches. This is generally more easily and thoroughly done in two "lifts," one being a plough turning a furrow in the ordinary way, and the second being a subsoiler that loosens up the bottom before the next sod is turned on to it. In most soils it is not possible to keep this uniform, the ordinary subsoiler sinking almost to the beam in some places and rising in others, so that the total depth may vary from 12 to 18 inches.

If planting is being carried out during a dry season it is an advantage for the subsoiling to be completed some months beforehand, so that any rain that falls will be caught and stored. It is important that, after subsoiling, land be brought to a fine condition as deep as possible; for this reason a deep cross-ploughing is advocated. If for any reason the lower depths of the worked soil have not been brought to a fine tilth, a wider hole should be dug when planting, and care taken that it is only filled with fined soil. The roots of the young trees are then assured of a fine but firmed soil to extend into.—"Queensland Agricultural Journal."

EXIT THE COUNCIL OF AGRICULTURE.

(To the Editor.)

Sir,—No doubt, most of your readers have read some of the "boost" that has been freely circulated in the effort to bolster up the great socialistic experiment in Queensland—the Compulsory Co-operation of the Primary Producer.

The following brief notice of the ignominious collapse of this costly stunt may perhaps serve as a warning to fellow toilers on the land in other States.

"The Primary Producers' Organisation Act," was forced upon us by a Minister who freely preached the doctrine of "Production for Use and Not for Profit," that is, production for the use of the socialistic voter, and not for the profit of the producer.

A willing "Director" was found at a salary of £1,500, with a five years' contract, and the general tax-payer was made to contribute some £20,000 a year towards the upkeep of a huge city office that swarmed with "staff."

A special tax of 2d. in every £2 worth of produce sold was inflicted on the producers, and of this sum £3,000 yearly went to the maintenance of a so-called "newspaper," which was forwarded free, weekly, to some 30,000 producers, with a view to educating them to recognise the wondrous beauty of Sovietism.

The foregone result was civil war, and we fought and wrangled to maintain our freedom from idiotic interference by windbag theorists, until the Government got full up, and cut out their annual subsidy.

Then the wonderful "Act" was amended. The "director" got another soft job elsewhere as "Markets Director" or Marketing Officer, or some such empty title, and the various branches of production were turned into Commodity Boards.

The headquarters or Council of Agriculture, as it was still called, was given power to levy upon these Commodity Boards to any extent for purposes of maintaining itself and its City Hot Wind Department.

This they promptly did, and to give some idea of what the estimated costs were, the butter men were called upon to provide £13,000, and the fruitgrowers £4,000—the others in proportion!

The fruit men rose in a body and declined to pay a cent to an empty show, entirely out of touch with fruit matters.

Then the dairymen bucked, and so encouraged the Egg Board, and all the other little bits of planking squeaked, and the result was that the barnacles in the Council of Agriculture

City Palace were afraid to use their legislative authority, and on All-Fools' Day, 1927, the Council voted itself out of existence, sacked its staff, and sold its office furniture.

The University procession this year, included a White Elephant, duly branded "Council of Agriculture, Superb Animal, Cost Only £160,000."

And so the bottom falls out of the "Production for Use and Not for Profit" idea, and Compulsory Co-operation (for the benefit of the duds and hangers on) is as far away as the nethermost star.—Yours, etc.,

MUNRO HULL.

Eumundi, Q., May 5.

T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

SWANN & Co.

Established 1822.

A century's experience in handling
FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

FIGHTING INSECT PESTS IN THE ORCHARD.

Bryobia Mites.

The red, globular eggs are scarcely visible to the naked eye. They are in clusters on the stems of the Apple and other fruit trees. The young mites are red, becoming brown when fully developed. The mites suck the sap from the leaves, which produces a yellow mottling effect upon the leaves, causing them to turn yellow and to drop prematurely. Spray dur-

ing winter months with lime sulphur to destroy eggs.

Vine Scale.

This scale is spreading to quite a number of different kinds of fruit trees. It is one of the largest scales known to science. When vines are pruned spray with red oil or lime sulphur. Burn all prunings.

Peach Aphids.

It is advisable to spray Peach trees at once with lime sulphur or red oil to destroy the eggs of the Peach Aphids. These aphids also attack Cabbage, Cauliflower, Celery, etc.

Codlin Moth.

Remove all bandages from trees. Dip these into boiling water to destroy chrysalids and hibernating grubs. All loose bark should be scraped from trees.

Dip all cases in boiling water to destroy chrysalids and larvae hibernating in the crevices.

Black Aphids of Citrus Trees.

These small insects are often extremely abundant during the winter months, when all the young growths may be destroyed. The presence of insects is easily noticed by the curled appearance of the leaves and twigs. Spray with nicotine sulphate or black-leaf 40. Force spray well into curled leaves.

Scale Insects on Fruit Trees.

Spraying for San Jose, Apple Mus-sel and other scale insects should be carried out at once. Use 1 gallon of red oil in 20 of water. Remove all loose bark and destroy by burning. In spring spray with tobacco water to destroy young scales that are hatching.

Woolly Aphis.

During the winter months spraying against these destructive insects should be carried out. Good results can be obtained by nicotine sulphate and red oil sprays. Nicotine sulphate 1 pint, red oil 1 gallon.

To prepare sufficient mixture to treat 100 trees, 1 lb. of soap should be boiled in a gallon of water until dissolved; add 1 gallon red oil and mix thoroughly, then add 1 pint nicotine sulphate, and after mixing the whole for a few minutes, add 80 gallons of water. If the water is hard, a small piece of washing soda should be added.

Cherry Aphids.

Spray at once with lime sulphur to destroy the eggs of these very destructive insects.

"Hallo, old man! How are you getting on in your garden?"

"Splendidly, I lifted my first lot of Potatoes yesterday! They were Peaches!"

PREPARING CITRUS FRUITS FOR MARKET.

New Developments in Packing House Equipment.

IMPROVEMENTS in the methods of preparing fruit for market are constantly being sought by progressive growers. In America the use of washing and brushing machines for removing dust and scale-marks, etc., from Citrus fruits has long been general in the packing-houses, and has more than justified its cost in the improved market values.

In Australia the advantages of this extra attention are just beginning to be realised. The large new packing-house at Griffith, N.S.W., last year installed some of the American machinery, and one or two other growers' companies have made experiments in this direction. But for the first time in the Commonwealth, complete Citrus packing-house equipment of Australian manufacture is now being installed by the Murrabit Packing Co. Pty. Ltd., Murrabit, Victoria. This includes soaking tank, roller elevator washer-brusher, towel absorber, drier, polishing brusher, automatic weighers, and an extra large sizer which will handle not only round fruit such as Oranges, but also Mandarins, Lemons, and all other fruits. In the Murrabit Packing House, the fruit will be untouched by hand from the orchard to the consumer. The pickers wear gloves, and the fruit is wrapped by gloved packers.

The lay-out of the modern packing-house provides for economical working and much saving of labor. The fruit straight from the orchards is first put on to the grid feed hopper, which allows any dirt and leaves to fall through before it enters the soaking tank. Here it is soaked for a few minutes to loosen any dust or foreign matter adhering to the skin, and is then lifted by a special elevator on to the washer-brusher. This machine is made with three rotating spiral brushes; as the fruit passes over these brushes, it is subjected to an overhead spray of clean water, which, together with the action of the brushes, thoroughly cleanses the fruit of all dirt and discoloration.

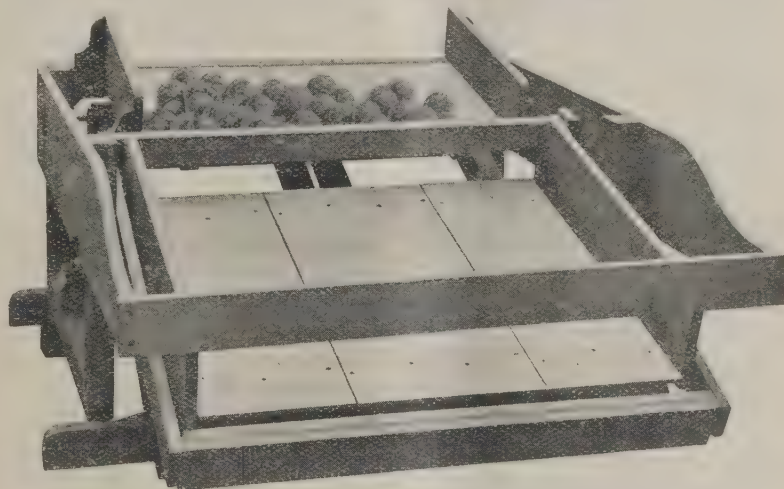
From here the fruit passes on to the towel absorber—a machine constructed with a special travelling towel, which absorbs the surplus moisture and eliminates all drops of water, either clinging to or dropping from the fruit as it enters the drier. The fruit travels across the towel in such a way that every part of it comes in contact with the absorbent material, which, on its return journey passes

through special mangle rollers to remove the moisture.

After leaving the towel absorber, the fruit enters the drier, which in this case is approximately 40 feet long. In the drier the fruit is turned over and over, and is subjected to a continual blast of air from fans, which completes the drying process. It then passes to the polishing brusher—a special brushing machine which puts a high gloss or polish on the fruit, and greatly enhances its selling value. The fruit then passes along the sorting tables, where it is sorted by gloved hands into four grades—culls, plain, standard, and choice. Each grade, as sorted, passes over an automatic weigher, which registers the quantity in say 15 lb., 20 lb., or 25 lb. lots, according to how it is set. In this way the weight of each grade of fruit supplied by every grower is

automatically run to the nailing press; here the case runs on to a stand, and the pressure of the foot on a lever brings the lid down firmly at either end, ready for nailing, and allowing for the bulge in the middle. This is a great labor-saver, as it expedites the nailing process. Hand-clamp trucks are used to lift seven cases at a time, thus further saving labor in transporting the fruit from the stack to the railway truck.

The machines used throughout are manufactured by the Lightning Fruit Grader Company, of Collingwood, Vic., and are of the solid construction and neat workmanship which have built up the well-deserved reputation of this firm. They are soundly built, and are very much cheaper than imported machines. The towel absorber, for instance, is sold locally for £65, and the automatic weigher for £20; the



An Australian-made Automatic Fruit Weigher (The "Lightning").

known, and each is paid for exactly what he supplies.

From the weighers the fruit passes to the sizer to be sized and packed. This machine, which is 40 ft. long, is one of the largest ever built in Australia. It is especially adapted for the economical handling of fruit in large packing-houses. The numerous bins are of large capacity, and each has a spring floor which automatically lowers as the weight of the fruit increases, and rises again as the fruit is removed, keeping a constant level to the packer's hand. Empty cases are placed under the bins from either end, so that each packer always has empty cases ready to hand. Branding stamps are suspended on strings just over the packer's head, and after each case is branded, these stamps fly back to their original position.

The packed fruit is placed on gravity conveyors, where the cases auto-

landed cost of similar machines imported from U.S.A., is £143/10/- and £37 respectively.

In America each separate Orange is branded, and every Orange of every grade is automatically registered as it passes through the packing-house machines for these purposes can only be economically installed in houses handling many thousands of cases; the limit in Australian sheds is perhaps under one thousand cases a day, and the majority of packing-houses pass through from 100 to 500 cases daily.

It is interesting to note that the Australian-made equipment has received the approval of the Government, and the Lightning Grader Co. is making perfect working models of the various machines for demonstration purposes on the Victorian Better Farming Train.

Tasmania

Overseas Fruit Trade : Notes by our Correspondent : Orchard Work for July

GOOD RAINS have now been experienced throughout the State, and crop prospects are much improved. During the latter end of June a number of sharp frosts occurred, and snow fell on the highlands. These cold spells are always welcomed by orchardists, the opinion being held that such weather accounts for a large proportion of the insect pests, and unless these conditions are experienced the infestation during the following season is always more severe.

Apple and Pear Shipments to the mainland markets still continue, consignments being regularly forwarded to all States except Western Australia. To date over 948,000 cases have been exported for the Interstate

man of the Commission) and Mr. J. Gunn to investigate the different problems which are confronting producers.

Mr. Gepp is strongly in favor of the Bureau system of organisation, and at each meeting stressed the importance of the establishment of a live bureau in each district to promote and assist toward the better development of our primary industries.

The Department of Agriculture, which has been the subject of previous years' economies, is now to be reorganised and strengthened, a number of new appointments being made so that research, demonstration, and instructional activities can be conducted on efficient lines, and extended to all the producing centres. From the interest that is being evinced it seems that producers are alive to their own interests, and that the Department is assured of their co-operation to meet and surmount the problems that are being experienced.

Fruit Packing Classes.—Fruit-growers throughout Tasmania will be sorry to learn that the packing instructor, Mr. W. C. Page, has found it necessary to relinquish his services owing to ill health. During the course of the last 10 years Mr. Page has imparted practical instruction in the packing and marketing of fruit to a great number of pupils, and the improvements that have been effected in this direction, both in the overseas and interstate trade are largely due to the valuable work that he has performed in this respect.

A special feature of this instruction has been the training of scholars attending State schools in the principal fruit districts, the tuition being carried out in co-operation with the Education Department. Many of these are now taking their places in the various packing sheds, and often figure prominently in the competitions that are held at the different fruit shows. During the course of his duties Mr. Page has also been able to assist growers with practical advice in regard to pruning, treatment of pests, and reworking by budding and grafting of undesirable or unprofitable varieties. The many friends which he has made throughout the State will regret that circumstances have forced him to give up this work and are sincere in their hopes that he will soon be restored to health and strength.

Pre-cooling of Fruit.—The subject of pre-cooling fruit before export has been receiving a good deal of attention recently, and many big improvements are promised in the "overseas" export apple trade by those who favour it, if it is adopted.

Tasmanian growers, however, do not take kindly to compulsory measures, especially if no practical demonstration of their merits has been forthcoming. At a recent meeting of the Fruit Advisory Board members were asked to consider a proposal for the "compulsory pre-cooling of mainland overseas fruit exports, with a subsequent extension of the system to the Tasmanian apple trade." The general opinion, with the experiences of over 40 years in the export of fruit to overseas markets, is that if the vessels would employ means which would ensure more rapid cooling, together with complete air circulation and ventilation, there would be no necessity for the installation of an expensive plant to treat fruit before loading. It is also considered that, although this may have been proved necessary for soft fruits, such as plums, peaches, apricots, etc., the absence of experimental data in respect to apples would make it essential that a number of shipments under the recommended treatments first be made to test the merits of the system before recommending "compulsory adoption."

Case Timber.—Following the experiments of last season, arrangements are being made for a large quantity of dressed and seasoned hard wood cases to be available for export purposes.

There is no doubt that the Tasmanian apple case can be improved, and the treatment suggested will assure a much better exterior, besides considerably lightening the package. It is estimated that a case of this description can be put on the market at 10d., which is much under the figure quoted for pine cases. Moreover, fruitgrowers with our present resources are very loath to draw their supplies from outside the State with the probable "hold ups" which may be experienced in transit by shipping services.

TASMANIA'S OVERSEAS FRUIT TRADE.

The 1927 Season Shipments.

The overseas fruit shipping trade closed on May 17, when the Ulysses lifted 22,038 cases for Liverpool.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osake Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

trade, but it is evident that the shortage of supplies is drawing upon the reserves, which were being held for late markets.

The s.s. "Riverina" has been replaced by the "Zealandia," and the Sydney service restored to the normal winter running.

Although a number of growers are holding on to parcels of the favored late-keeping varieties such as Tasma (Democrat), Sturmer, Crofton, and French Crab, it is evident that the season will close much earlier than in previous years, and that apples should be very scarce during September and October.

Development and Migration Commission.—During the month a number of well-attended meetings were held throughout the State agricultural and horticultural centres on the occasion of the visit of Mr. H. W. Gepp (Chair-

The total shipment fell short of anticipations, chiefly owing to the low prices that have prevailed in England and the high prices in Sydney and Brisbane. The total shipment from Tasmania was 1,106,531 bus., of which 980,366 bus. were picked up at Hobart and 126,165 bus. from the Tamar. The Hobart shipments were as follow:—

	Bushels.
Ballarat (London)	11,248
Ascanius (Liverpool)	14,776
Medic (London)	30,555
Otranto (London)	16,938
Runic (London & Liverpool)	38,146
Berwickshire (Manchester)	18,112
Narkunda (London)	27,715
Largs Bay (London and Hull)	19,511
Kent (London, Hamburg)	20,498
Euripides (Liverpool and London)	36,795
Port Hunter (Hamburg)	22,942
Berrima (Hull and London)	36,159
Cathay (London)	31,821

Fruit Shipments United Kingdom and the Continent

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.
AND HOBART, TASMANIA
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

Hobson's Bay (London and Hull)	19,885
Persic (London & Liverpool)	38,395
Nestor (London)	29,291
Oronsay (London)	23,680
Ceramic (London, Southampton and Liverpool)	51,703
Barrabool (London)	44,136
Mooltan (London)	32,192
Esperance Bay (London and Hull)	31,036
Otorama (Liverpool)	27,415
Osterley (London)	14,591
Benalla (London)	29,895
Port Hobart (London, Hamburg)	55,515
Cormorin (London)	26,756
Moreton Bay (London and Hull)	26,802
Themistocles (London & Liverpool)	37,894
Orama (London)	22,511
Borda (London and Hull)	31,219

Cornwall (London, Manchester and Liverpool)	28,358
Maloja (London)	44,880
Fordsdale (London)	16,357
Ulysses (Liverpool)	22,038

Total from Hobart	980,366
Beauty Pt. Shipments:—	
Otarama (Liverpool)	10,797
Port Hobart (London and Hamburg)	16,924
Berwickshire (Manchester)	19,826
Port Hunter (Hamburg)	27,480
Banffshire (London and Manchester)	14,544
Asphalion (London)	21,962
Telamon (Liverpool)	13,656

ORCHARD OPERATIONS FOR JULY.

(By P. H. Thomas, State Fruit Expert.)

Pruning.—This should now be well advanced and every opportunity taken to complete operations before the first sap movement commences, especially amongst the earlier blossoming stone fruits.

In young trees the aim is to build up a strong framework, shortening the leaders according to the growth and desired direction of development. Varieties that are known to be of the spreading order should be encouraged to develop an upward growth, whilst those inclined toward vertical development should be trained as horizontally as possible.

In order to carry out pruning satisfactorily it is necessary that a knowledge be possessed of the tree's bearing habit. This is especially necessary with the Apple. There are many kinds grown and a number possess peculiarities that must be fully taken into account when treating them. Some varieties, such as **Jonathan, King David, Fameuse (Pomme de Neige)** and **Delicious** are essentially of lateral bearing habit, whilst others such as **Sturmer, Dunns** and **Crofton** are more inclined to carry their fruits on short spurs.

The operator should remember that every cut that is made on a tree should have a definite object, viz., the production of fruit bearing wood or the training and development of the trees. If this object is not attained, it is foolish to persist in the method. Young trees which are making very vigorous growth require liberal treatment. Hard cutting in such cases will only accentuate the condition, whilst if the leaders are only moderately shortened, and plenty of laterals left in the tree, it will soon settle down and bear satisfactory crops.

Cultivation and Manuring.—As soon as the soil is in suitable condition, the early spring ploughing may be commenced. Slow-acting manures such as blood and bone, bone-meal, and the various orchard fertilisers, may be applied at this operation, if not put on the preceding autumn. The quicker acting chemical fertilisers, such as sulphate of potash, nitrate of Soda, etc., are better left until later in the spring, especially in light sandy soils situated on undulating ground.

Green cover crops should not be turned under until a good top growth is obtained. Many of these that have been sown late will not make much development until September and October, and growers would be advised to defer ploughing for a few weeks to secure the additional benefits.

Planting.—New plantings or extensions of fruit areas may take place any time this month if the site is properly drained. Should this not be effected, it is better to postpone the work until later in the season, the young nursery trees being very subject to the influence of water seepage or excessive moist conditions.

When planting, trim off all broken or bruised roots and set the trees at about the same depth as they were growing in the nursery. The soil should be packed or tramped around the roots as tight as possible. This is important and ensures an early and strong development of roots and branches.

Spraying.—Toward the end of the month preparations may be made for the application of sprays that are applied during the dormant period.

Strong contact insecticides such as red oil or lime sulphur may be applied where necessary, especially upon the early blossoming stone fruits.

The **Black Cherry Aphis** has been particularly troublesome during the past seasons. This aphid overwinters in the egg form on the branches of affected trees, and it is necessary to apply a strong oil emulsion (1-15) at the dormant stage in order to control infestation.

During the past few seasons experiments have been conducted in respect to **manurial spray treatments** on varieties which are weak in setting their fruits, and good results have been obtained in many cases.

The spray is applied in the form of a nitrate of soda-caustic soda mixture, 50 lbs. of nitrate of soda being dissolved in 50 gallons of water, to which is added 5 lbs. of caustic soda. The trees should be thoroughly drenched with the mixture, which must be applied in the dormant season, as it is injurious to fruit and foliage.



Dried Fruit Department

CONTROL OF DRIED FRUITS.

Validity of South Australian Act Questioned.

A CASE of particular interest to all growers of dried fruits came before the High Court of Australia at Melbourne on May 30, when Frederick Alexander James, of Berri, S.A., challenged the validity of the South Australian Act on the ground that it was contrary to the provisions of the Commonwealth Constitution relating to interstate trade and commerce, and applied for an injunction to restrain the South Australian Government from interfering with the sale by plaintiff of dried fruits within the Commonwealth. He also claimed £5,000 damages for interference with his business.

The Court consisted of Acting-Chief Justice Isaacs and Justices Duffy, Powers, Rich and Starke.

Sir Edward Mitchell, K.C., and Mr. Ward, of South Australia, appeared for the plaintiff, and Mr. Owen Dixon, K.C., and Mr. R. G. Menzies appeared for the defendant State.

Mr. Ham, K.C., appeared with Mr. Menzies to intervene on behalf of the State of Victoria as an interested party.

The South Australian Dried Fruit Board was also named as a defendant.

In an affidavit James stated that he had made contracts for the sale of 190 tons of dried fruits in New South Wales, 135 tons in Victoria, 20 tons in Queensland, and 24 tons in West Australia.

In 1926 the Dried Fruits Board determined that no grower or dealer should sell dried fruits in the Commonwealth exceeding the following limits:—30 per cent. of so much of their dried fruits as consisted of sultanas, 35 per cent. of currants, and 60 per cent. of leixias.

On July 31 he was charged with having unlawfully sold dried fruits greater than those which he was permitted to sell, but the hearing had been adjourned from time to time. Officers of the Dried Fruits Board had seized all fruit as delivered into his

packing sheds or other packing sheds in South Australia to his (James's) order.

Having been informed by the officers of the Board that he could export to England any of the fruit acquired under export licence, James obtained from the Commonwealth Control Board a licence to export approximately 30 tons of the fruit seized. The Minister for Agriculture had refused to hand over fruit required to fulfil Australian contracts, and his business was brought to a standstill.

Mr. Dixon, on behalf of South Australia, said that defendants had demurred to plaintiff's claim, submitting that the South Australian Act was made specially subject to section 92 of the Commonwealth Constitution, that there was no interference with Interstate trade, and that the High Court had no jurisdiction.

In the opening stages of the hearing an extraordinary position was revealed by Sir Edward Mitchell, who explained that the 1924 Act expired on March 31. An Act was passed in December, 1926, making provision for the continued operation of the 1924 Act. The latter Act authorised the State Governor, upon his being satisfied that similar legislation would remain in force in Victoria, to declare by proclamation that the 1924 Act should continue in operation for a further period. There had, in fact, been no proclamation, and since March 31, therefore, there had been no controlling legislation in force in South Australia.

The various acts of trespass had taken place since March 31. Everybody concerned had naturally assumed that the proclamation had been made, and the fact that it had not, had been revealed only a few days before the case commenced. Clearly, he contended, the defendants could not justify the notices served and the actions taken since March 31. Both sides, continued Sir Edward, were anxious to have the constitutional issues which the case involved decided.

Sir Edward said the actions of the

Board had been worse than a penalty, for not only had they seized the plaintiff's fruit, but had notified him of their intention to continue doing so, so that it would be impossible for the plaintiff to go on with his Interstate contracts.

The S.A. Act enabled the expropriation of fruit grown in South Australia, or dried in Australia, and the Victorian Act referred in similar terms to fruit grown in Victoria, or dried in Australia. The Act, he contended, was incidental to an attempt by S.A. and Victoria, acting in co-operation to effectively control Interstate traffic in dried fruits.

After the legal points had been argued at considerable length, the Court reserved judgment.

S.A. Act Renewed.

A Bill was introduced in the South Australian Parliament by the Minister for Agriculture on June 9, to extend the period of operation of the Dried Fruit Acts, and to validate the operations of the Dried Fruits Board since the Acts ceased to operate on March 31. A long discussion took place, and strong objection was taken to making the Act retrospective.

An amendment moved by Mr. T. Pascoe to exempt persons who sold between March 31 and June 9 from the operations of the Act was defeated on a division by the President's casting vote.

The Bill later passed both Houses without amendment.

Further Fruit Seized.

On June 15, representatives of the Dried Fruits Board at Berri took possession of the dried fruits contained in the packing shed conducted by Mr. R. G. Burnell, amounting to approximately 60 tons. The seizures were made on behalf of and under an order from the Minister of Agriculture, South Australia.

RECORD VINTAGE IN MURRAY VALLEY.

Vignerons along the Murray Valley announce that they have completed the season with the best returns ever

obtained. Practically every vineyard between Albury and Corowa on both sides of the Murray reports that the yield of Grapes exceeds that of any previous season, and that there has been a ready market for Grapes for wine-making. The cause of the remarkable returns was the specially favorable season, there having been practically no rain during the ripening period, whilst last year there were falls of nearly 10 inches in February and March. The re-constitution of the vineyards with phylloxera-resistant stocks also contributed materially to the gathering of uniformly good crops. Grape-growing is expected to increase in the border districts as the result of the uplift which the industry has received this season.—"Australian Brewing and Wine Journal."

PHYLLOXERA DISTRICTS.

Removal of Vines Prohibited.

The Superintendent of Horticulture, Victoria, draws attention to the provisions of the Vegetation and Vine Diseases Act, which provide for a penalty of £100 for the removal of vines or portions of vines from Phylloxera districts of the state into areas as yet clean.

Some years ago Phylloxera destroyed the vineyards of North-East Victoria, which have since been re-established on resistant stocks at heavy expense. Many districts are still clean, and to keep them so the regulations will be stringently enforced. These prohibit the introduction of vines, unless accompanied by a permit from the Department of Agriculture, into

districts including Mildura, Swan Hill, Lilydale, Great Western, Tresco, and Koondrook.

There are two phylloxerated and replanted areas in the State, proclaimed as "Vine Disease Districts." These are the Geelong District (an area within an approximate radius of 15 miles of the town of Geelong), and the North Central District, the latter being an area extending north and south from Echuca to Seymour, and east and west from Tallangatta to the Avoca River. Removal of vines or parts of vines from these areas is prohibited, under heavy penalties.

VINE CULTURE.

Swab for Black Spot.

And Insure Against Early Attack.

In many of the grape-vine districts swabbing for the control of black spot will be a seasonal operation this month.

If the disease has been rampant last season, two applications are desirable. When only one swabbing is given, it should take place as near as possible to the bursting of the buds, but it is important not to leave the application so late that injury may be done to the bursting buds, as unexpected sprouting of the buds might then prevent the work being done at all. Where two applications are decided on, the first should be given a month to five weeks before the bursting of the buds, and should be followed by the second application just prior to the bursting of the buds.

Swabbing delays the bursting of the buds a week or ten days, and is advantageous, on that account, in districts that are subject to late frosts.

The formula is: Water, 1 gal.; sulphate of iron, 5lb.; commercial concentrated sulphuric acid, $\frac{1}{2}$ pint. Dissolve the sulphate of iron by suspending it overnight in a piece of bagging in the water. In the morning add the sulphuric acid slowly to prevent any spurting. Use a wooden or earthenware vessel.

Another method is to pour the sulphuric acid over the sulphate of iron and stir well, then add boiling water, slowly stirring all the time. There is greater danger of spurting in this case.

A formula recommended where spraying is carried out in preference to swabbing is water, 10 gal.; sulphuric acid, 1 gal. This is also an effective swab.

Caution.—Sulphuric acid must be added to water carefully, or it may splash up and burn the hands and face of the operator. It should be poured in slowly in a thin stream, the water being stirred at the same time. Sulphuric acid has a very corrosive action on all metals except lead.—N.S.W. Department of Agriculture.

ORCHARD SPRAYING.

Practical experience has proved that spraying, to be worth while, must be well done, and that substantial pressure must be maintained. Not only is this necessary to dislodge the pests, but it is more economical. With low pressure, the spray mixture is not atomised sufficiently, and consequently much of the material is wasted.

The machine, of course, is responsible for the correct application of the spray.

Three years ago, the New Hercules Orchard Sprayers were introduced into the Harcourt district, where they were called upon to operate two guns at over 300 lbs. pressure. They are now in use in practically every orchard district of Victoria, and their reputation for reliability and economy is a very high one.

Some of the largest orchardists in the State are using these machines and proclaim them as second to none.

They are equipped with 1½, 2½, or 3½ h.p. Hercules Engines, geared direct to the famous Metters' Pump, and are obtainable from the Farm and Pastoral Supplies Pty. Ltd., of 500 Bourke-street, Melbourne.

**Sell your Dried Fruit in the
Best Market**

J. YOUNGER

The Independent Dried Fruit Merchant

22 Market Street - - - Melbourne

Will buy your fruit outright, or will export on your behalf at a total Export Cost of £12/10/- average, and a Cash advance of two-thirds London Price.

Commonwealth quota purchased for Cash at Highest Current Rates. No commission. Bank reference and all particulars on application.

BUYER OF ALL EVAPORATED FRUITS

ELECTRO DRY ARSENATE OF LEAD

FOR SPRAYING OR
DUSTING

PACKED IN STRONG
ROPE FIBRE BAG

EASY TO HANDLE
EASY TO MEASURE
NO DUST

"ELECTRO" Dry Arsenate
of Lead represents the
highest development in
Spraying Material



Active Ingredients

LEAD ARSENATE not less
than 98%

INERT INGREDIENTS not
more than 2%

TOTAL ARSENIC (metal-
lic) not less than 19.5%

ARSENIC (metallic) in
water soluble form not
more than 5%

The VREELAND CHEMICAL COMPANY

16-18 East 40th Street, New York, U.S.A.

—also manufacture—

BORDO MIXTURE — BORDO LEAD MIXTURE — BORDO CALCIUM MIXTURE
AND ARSENATE OF CALCIUM

Enquire from Distributors:—

MARTIN & O'KEEFE,

(Agents for N.S.W. and Q'land)
14 ULTIMO RD., SYDNEY, N.S.W.

E. B. COX & COMPANY,

East Terrace and Rundle Street,
ADELAIDE, S. AUSTRALIA

DISTRIBUTORS WANTED for West Australia. Apply RICHARDSON, ORR & Co., 62 A.M.P. Buildings, PERTH.
" " " Tasmania Apply RICHARDSON, ORR & Co., 73 Murray Street, HOBART.

LAWFORD'S FRUIT EXCHANGE,

WILLIAMSON'S ROAD, DONCASTER,
Victoria.

The FACTORY REPRESENTATIVES,

Box 2123, G.P.O., SYDNEY,
N.S.W.

Western Australia

Seasonal Work in the Orchard : General Notes : Crop Report.

SEASONAL WORK FOR JULY.

Pruning Deciduous Fruits.

GROWERS OF APPLES, pears and stone fruits will find most of their time occupied this month in pruning, and, so far as fruit trees are concerned, there are nearly as many styles of pruning as there are operators, each exponent claiming some special benefit accruing from the procedure he follows. It is certainly a fact that, provided soil and climatic conditions are suitable, fruit trees will produce crops of fruit under the most varied methods of training, and with little or no training at all, but there are certain fundamental principles underlying pruning which should be mastered by the beginner, and having grasped these and acquired the habit of closely observing results from year to year, he will find he is able to train his trees satisfactorily, and obtain good crops even though his style differs somewhat from orthodox methods. To obtain success, every grower should have a definite system in view, and follow it. This does not, of course, mean that he should perform all the work himself; that would be impossible in some of the large orchards, but he should be able to tell his employees how he wishes the trees to be pruned, and see they are done in that way, for although there are many styles giving good results, sudden variations from year to year, when different pruners with divergent views carry on the work, are decidedly bad for the trees and costly to the owner.

To prune for profit

is the object to keep in view, and to achieve this each tree must be treated in such a way that it will produce a maximum quantity of fruit of good quality and marketable size. Leaders must be spaced so as to allow light and air to penetrate freely to every part of the plant, while guarding against over-exposure, which results in sun-burned bark and fruit. In the tree's earlier years care must be taken by moderately hard pruning to force growths from buds all along each leader's length, and avoid bare spaces so often noticeable, but so unsightly and unprofitable; while in later years equal care must be taken in guarding against overcrowding of bearing buds

and shoots which may produce many fruits, few of which are of good quality or marketable size.

There are many who have embarked in the industry with little or no knowledge of the habits of the trees from which they hope to derive a livelihood, and these are strongly advised to get in touch with the Orchard Inspector, who supervises their particular district, and request him to give a practical demonstration on their own trees, illustrating the best way to prune them. The Inspectors have had long experience in this work, and know the habits of the trees under the conditions obtaining in the various fruitgrowing portions of the State, and a beginner will learn more in a couple of hours from seeing the work done and having an explanation of why it is done than he will from a week's study of a text-book. As he gains in experience he will find that a good text-book is a very valuable aid, but a complete novice finds it hard to recognise from the description given on the printed page and various buds and growths on the actual trees.

Planting deciduous trees should be pushed on with during this month. If the land is too wet for planting operations when the trees



GIBBS, BRIGHT & CO.—See Page vi

arrive from the nursery, every care must be taken to heel them in in moist (not wet) soil to prevent the roots drying out.

Trapping should be continued in all orange groves where fruit flies were known to have been present during the past summer.

Oranges and mandarins should be watched carefully for signs of the pest, and all fruit found to be infested should be boiled.—G. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture."

WESTERN AUSTRALIA.

Seasonal Report to End of May, 1927.

A few consignments of apples went forward to European markets during May, but the major portion of the export to that market finished up in April last.

This season a new phase of export is being experienced in Western Australia in that regular consignments of apples are being shipped to the Eastern States, Victoria and South Australia being the principal receivers. This is fortunate because the cold stores in this State are at present well filled, and there is still a quantity of fruit in the ordinary sheds at the orchards.

A few new season's oranges appeared on the local market during the month, but the season for this fruit does not properly commence here until June. The orange crop in this State this year is only a medium one, and up to the present we have not heard of any growers who are shipping to London, though the usual quantities will be sent to Java, Singapore, etc.

The foliage on the vines is, generally speaking, still holding up, but in exceptional cases pruning operations are beginning.

PREVENTS:-

CURL-LEAF
BLACK-SPOT
SHOT-HOLE
MILDEW



Don't Bother
mixing
Bluestone & Lime
when this is
JUST as GOOD
JUST as CHEAP
and
Much Quicker

Sole agents for Victoria:

LAWFORD'S FRUIT EXCHANGE PTY. LTD. DONCASTER

Several samples of this year's wines have been tested, and these have been found to be of superior quality, especially the red sweet type.

A Record Season.

"Apple growers in Western Australia this year have been 'favoured of the Gods,'" says Mr. Geo. Wickers, Superintendent of Horticulture. "A record crop, record export, high quality fruit, strong demand, and good prices make a pleasant summing up of this season's experience. Even shipping difficulties were absent, for with the light crop in the Eastern States, more refrigerated space was offering on the boats than was required, and, finally, shipping freight was lower than it has been for many years past."

ANSWERS TO CORRESPONDENTS

Transit Rot.

"Transit Rot," Merrigum, Vic., a.s.k.—Is there any chemical which you or your correspondents could recommend which would be effective in solution for dipping fruit picking boxes which are regularly used to bringing the fruit in from the orchard to the packing house, the idea being to treat the boxes at regular intervals and so keep them free from the fungus spore of Transit Rot?

I have tried immersing the boxes in boiling water, and also in strong bluestone solutions, with good results; but the former involves a great deal of labour and expense, and the bluestone being very corrosive plays havoc with the nails. What is required is a cheap and effective fungicide which would not cause serious stain or corrosion. Transit Rot is a serious problem both to the grower and the canner.

Answer (by D. B. Adam, B.Ag.Sc. Plant Pathologist).—The boiling water treatment, either with or without washing soda, is the most effective method of treating cases to control Transit Rot that we know of.

Perhaps your correspondent would like to try a formalin solution, 1lb. to 40 gallons, which may be used cold. We have not actually tried this solution, but it is a very effective fungicide, and, like bluestone solution, is widely used as a pickle for wheat to destroy bunt spores carried on the grain.

Plum Stocks.

H. M. Jones, Stanthorpe, Queensland, writes:—I would be very pleased if you could advise me if Jap.

Plum will flourish if worked on to English Plum stock. English Plum does not flourish when worked on to Jap. stock, with me.

Answer (by J. M. Ward, Superintendent of Horticulture).—The working of Japanese types of Plums on to English types is not recommended.

In a Bulletin on "Plum and Prune Culture," by J. M. Ward, issued by the Victorian Department of Agriculture, it is stated that the principal stock used for Plums in Australia is the Myrobalan Plum. Other stocks used include the Marianna Plum, Peach, Apricot, and Almond. The author states that "in the Stanthorpe (Queensland) district, can be

different stock; by doing this and keeping a careful record, they should be in a position to arrive at a conclusion as to which is the best stock for their particular district and soil, and also as to which stock best suits a certain variety."

Re-working Winter Bartlett Pears.

In further reply to the query by Mr. G. Roberts, Hanwood, via Griffith, the Under-Secretary, Department of Agriculture, N.S.W., advises:—

The trees referred to may be successfully grafted, provided they are in a good, healthy condition. If the trees are weak and out of condition, the results would not be satisfactory.

In grafting old trees, it is essential that numerous grafts should be inserted. This aids in the maintenance of healthy tissue round the whole limb. If only one or two grafts are placed on the outer ring of large limbs, the inside portion of the limb invariably dies back and the death of the whole limb or even the whole tree sometimes eventuates.

Grafts which are placed on the inside portion of the limb, and which are only intended to draw the sap and keep that portion of a limb in a healthy condition, may be kept well cut back. It is also advisable when grafting old trees to leave one of the smaller limbs for the purpose of drawing the sap. This limb may be removed the following winter.

In addition to this, any fruit spurs growing below where the limbs have been cut should not be removed as they help to shade that portion of the tree. When growth starts in the spring time, some of the shoots which grow from the stock should be left also for the purpose of affording shade for the stock. Such shoots should be kept well pinched back. When scions of grafted trees have failed, you should leave a sufficient number of strong shoots from the stalk to be budded later in the season.

Care should be taken to cut the ties soon after the grafts commence to shoot, and the grafts should be inspected frequently during the growing season, and if they are found to be making a strong growth they should be pinched back. This will prevent the grafts from outgrowing their strength and minimise losses which often occur as the result of heavy winds, particularly when the bark graft is used.

When Packham's Triumph have been planted near Baronne de Mello, the cropping has been satisfactory.

Brand Your Fruit Cases and Bags

with

CALDWELL'S STENCILLING INKS

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

HAMBURG (GERMANY).

Ph. Astheimer And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

seen many fine vigorous-growing Plum trees that have been top-worked to Peaches. The Peach in this district appears to be a very suitable stock for the Plum.

"Growers of Plums are advised to observe the stock their trees have been worked upon and whether the stock was raised from a seed or a cutting, and to note the growth and cropping of the various trees upon

The Manuring of Vines.

Uses of Essential Plant Foods.

A Lecture by F. De Castella, Victorian Viticulturist, Broadcast Through 3LO.

The season for vineyard manuring is approaching, and the question arises, "What is the best form of manure to apply?"

The vine is not a greedy plant; it thrives on land classed as poor from the usual agricultural standpoint. We cannot, however, take Grape crops from the land indefinitely without replacing the plant food removed by the crops. The inexorable law of restitution asserts itself, and a time inevitably arrives when the abundant production of the first few years slackens off, and unless recourse be had to manuring, yields ultimately cease to be remunerative.

Opinions of practical growers are often contradictory and sometimes misleading. Some, indeed, disbelieve in manure for vines. Certain soils contain large stocks of the necessary plant foods, nevertheless the day of reckoning must come, sooner or later; usually sooner. There is overwhelming evidence that

it pays to manure vines.

It is the heavily manured blocks that yield the heavy crops in Australia as well as in Europe. By judicious manuring we can maintain the productiveness of the early years, and in many cases improve the yields of even young vineyards by supplementing the supply of a plant-food element, present in the soil in insufficient proportion. Restitution should commence early in the life of a vineyard; it is much easier to maintain productiveness than to restore worn-out vines.

Too much is sometimes expected of manuring. It is only one of the factors governing the yield. The others are tillage, pruning, and disease control. No manure can give bountiful crops without adequate tillage. A grower may talk learnedly about nitrogen, phosphoric acid, and potash, when the element his vines are crying out for is iron. Not in a manurial sense, however; I mean iron in the metallic form—the implement behind the horse.

Nor can manure replace water if the lack of this is the crop-limiting factor. Heavy manuring, indeed, renders the vine more exacting in its moisture requirements.

What to apply, how much to apply, and when and how the application should be made are the chief problems that present themselves. Their solution is not nearly so easy as might be thought.

Unfortunately, soil analysis cannot help as we might wish. It can enlighten us as to the total stocks of each element the soil contains—information that is, indeed, very useful; but it cannot tell us exactly how much is immediately available to the vine.

Some persons look upon having their soil analysed as almost on a par with sending their pass-book to the bank. They expect that deficiencies will be revealed and useful additions clearly indicated. This optimistic view has long since been discarded. We should regard analysis in its proper light—of great value to

the soil investigator, but inadequate as a guide to manuring.

A better way is to make the vine itself speak by means of experimental manure plots

—the rational method that has proved of such value in the case of Wheat. Unfortunately, results are much slower in the case of a deep-rooted perennial such as the vine. Much good work has been, and is being, done in this way, both here and in other countries.

Another guide of value is the requirements of the vine; in other words, the quantities of plant food elements removed annually by the Grape crop. Fortunately, we need only consider four elements; the others are present in the soil in inexhaustible proportions. These four are nitrogen, phosphoric acid, potash, and lime. It is estimated that a 5-ton crop per acre of fresh Grapes removes from the soil 33 lbs. of nitrogen, 9 lbs. of phosphoric acid, 27 lbs. of potash, and 71 lbs. of lime.*

(*Based on Muntz' exhaustive investigations of the vineyards of Southern France. These are not, of course, "hard and fast" figures. Various factors may cause a certain amount of variation. Nevertheless, they constitute a useful guide under conditions prevailing in Victoria.)

In what way can these substances best be replaced?

If I were asked what is the best manure for vines, I should reply—stable manure, and plenty of it. Not only does it restore removals in approximately the correct proportion, but it supplies organic matter or humus—that queer substance that exercises such potent functions in connection with the fertility of the soil and its ability to retain moisture.



Fruchthof-Bremen

Fruchthandel Gesellschaft

Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen

Established 1902

AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

Tasmania: Messrs. E. R. Cottier & Co., Hobart.



The "Eclair" Spraying Fruit Trees.

The types made include the following:—

HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS
BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED HAND POWER SPRAYER
high pressure model (220 lbs. per square inch)

LIQUID CAPACITIES $1\frac{1}{2}$ pints to 88 gallons.

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Lime wash, Whitewash, Distemper, Waterpaint and Disinfectants.

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, FEGLEE & CO. LTD., 24d CHRISTOPHER STREET, LONDON, E.C.2.

FOR SPRAYING, LIMEWASHING and DISINFECTING

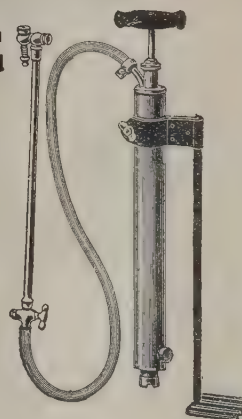
RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL

Before Placing Your Order ASK A FRIEND

WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

TO TELL YOU HIS OPINION OF IT
ACTUAL USE IS THE BEST TEST



CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS
POWDER BELLOWS
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS
3 H.P. MOTOR SPRAY OUTFITS

PRICES FROM 2/9 to £80 each

Ten tons of stable manure every third year replaces the removals made annually by a 25-ton crop of fresh Grapes.

Unfortunately, stable manure is scarce; it cannot be procured in anything like the quantity required. In practice, we are compelled to fall back on artificial fertilisers, supplemented by green manuring to supply the organic matter these do not contain, thus countering the humus depletion that occurs in well-cultivated vineyards under our hot inland sun.

Let us briefly consider the four essential plant foods.

Nitrogen promotes vigorous growth of cane and leaf. To vintage heavy crops we must have strong, healthy vines. It is nevertheless possible to have too much vegetative growth—vines that produce wood at the expense of fruit. Nitrogen in excess is thus undesirable. The quality of the fruit, and, in extreme cases, even the yield, may suffer. Vines over supplied with nitrogen are more prone to fungus diseases. In our warm climate nitrification is active, and the vine less exacting as regards this element than in colder regions. Nitrogen is of great value whenever it is desired to increase growth, but it should be applied with caution; unlike the other three elements, excessive applications can actually prove injurious. It is well to make sure that lack of vigor is really due to nitrogen deficiency. Application of this element is of little or no use if the poor growth is due to faulty soil conditions, such as bad drainage; or

to root parasites, animal or vegetable.

Phosphoric acid gives tone to the vine and quality to its products, rather than stimulation of vegetative growth; it promotes the setting of the fruit at blossom time. Most Victorian vineyard soils are poorly supplied with this element, and, in addition, the vine seems to absorb it from the soil less readily than it absorbs nitrogen and potash. Hence it is that heavy applications of it pay. Though the crop removes only 9 lbs. annually, it pays to apply eight to ten times this quantity.

Potash is absolutely essential to the vine, which is distinctly a potash-loving plant. Fortunately, most of our soils are well supplied with it. If not immediately available, it can be released by gypsum—a dressing with which is thus equivalent to a potash application. This element gives tone to the vine and quality to its fruit. It promotes a healthy dark-green color in the foliage. It also has a marked corrective action in vines suffering from over-production. To soils deficient in potash its application is very necessary. Even in soils fairly well supplied it often gives positive results.

Lime has, in many of our soils, a true manurial value, that is usually denied to it. The vine removes from the soil more than twice as much lime as potash, and yet many of our soils actually contain less lime than potash. Outside the Mallee and the Wimmera, where limey soils are the rule, lime dressings are of great value. The value of lime and gypsum as soil improvers is well known.

The action of the latter at the rate of a ton and a-half to the acre, in rendering stiff soils more friable, is truly remarkable.

Quantities to Apply.

From the above we may conclude that in the majority of our vineyards phosphoric acid is the element that it pays to apply. The light dressings which benefit the Wheat crop in so striking a manner, are inadequate in the case of the deep-rooting vine. Annual applications of 5 cwt. per acre and over of superphosphate, or its equivalent, are common in the Mildura district in the best-bearing vineyards. For vines that are not irrigated, about half this quantity should suffice.

Potash, preferably in the form of sulphate, is generally beneficial, especially in land not well supplied with this necessary element—1 cwt. per acre is usually sufficient.

Nitrogen gives positive results in cases where growth is not sufficient. The condition of the vine is the best guide. If sufficiently luxuriant, nitrogen may actually prove harmful, and should be withheld.

Applications at the rate of 1 cwt. ammonium sulphate, $1\frac{1}{2}$ cwt. sodium nitrate, or 2 cwt. of blood manure, are equivalent, and are usually sufficient.

Remember that it is possible to over-apply nitrogen, but it is scarcely possible to apply too much phosphoric acid, potash, and lime. An over-application of these last three is not wasted, as the soil will retain the surplus. Application in excess of early requirements is, however, not good business.

Commercial fertilisers, containing the different plant foods already mixed, are largely used. Sometimes they contain a certain constituent in excess of requirements; sometimes the price is too high. Concerning values and prices, full information will be found in the January issue of the "Journal of Agriculture" in each year. By applying the unit values, as therein explained, to the analysis on the tag, a grower can ascertain if he is being charged too much for any given manure.

The time for application of fertilisers is of importance. In the first place, we must remember that the crop of one season has been largely built up during the vegetative cycle of the previous season. It follows that the vine cannot fully benefit from a manure application before about 18 months have elapsed. Some benefit usually accrues the first year, but the complete measure takes longer. It is this tardy response that leads to doubts as to the efficacy of vine manuring.

Even the immediate benefit takes longer than is often thought. The mistake is sometimes made of distributing the year's quota in several different applications throughout the season. This is quite illogical. The vine absorbs almost the whole of its phosphoric acid and nitrogen in the big rush of growth before blossom—i.e., in October. Later on, this is distributed where it is required. A dressing of superphosphate or nitrogen, applied after blossom, is practically useless to the vine during that season, though it will benefit the crop of the following year. Potash absorption continues later; nevertheless, the whole year's manurial application should be made before the vine starts its growth. Winter is the time-honored season to apply manure, and there is no reason to depart from this practice.

Artificial fertilisers are applied in different ways. They may be broadcast and ploughed in; they may be drilled in, or they may be distributed in plough furrows. All three methods give good results, and the vine ultimately benefits. For quick results, localisation seems advisable, and the placing of the manure in two furrows, 6 to 8 inches deep, one on each side of, and a couple of feet away from, the vine row, is perhaps the best way. Manure-sowing attachments are obtainable that can be fixed to one furrow of a plough. These are convenient, and enable the quantity applied to be accurately controlled.

Green Manuring.

Artificial fertilisers should be supplemented by green manuring wherever possible. Under irrigation this is easy. Various green crops are favored, Peas and Tick Beans being among the most popular. In addition to organic matter, these legumes enrich the soil with an appreciable weight of nitrogen assimilated from the air. The seeds are drilled in early autumn with a couple of cwt. of superphosphate, on the recently-irrigated land. Active growth starts at once, and the resultant green crop is ploughed in towards the end of winter.

and rather complex question. In conclusion, I would say: Don't expect good Grape crops; don't expect a continuance of good crops, unless you are prepared to manure. It pays to return to the land rather more plant food than is removed by the crop. Phosphoric acid must, indeed, be applied on an even more generous scale, seeing that it is deficient in most of our soils. Potash, or gypsum to release it, is nearly always beneficial. Nitrogen should be applied judiciously, whenever growth shows room for improvement. Lastly—don't forget lime in soils deficient in this element, and green manuring wherever practicable.

EMPIRE WINE COMPETITION.

Advices from London, on May 24, state that as usual, the Brewers' Exhibition is conducting a competition for wines on October 29. The title of the competition has been changed to the "Empire Wine Competition." The alcoholic strengths of exhibits have been revised, and the classes will now be in divisions of over or under 27 per cent. of proof spirit.

PERSONAL.

Complimentary Dinner to Mr. H. Blyth.

Mr Harry Blyth, Chemical Manufacturer of Elsternwick, and proprietor of the well-known "Blue Bell" Arsenate of Lead, was entertained at dinner on Tuesday, 3rd of May, by about 30 personal and business friends, competitors, municipal councillors and others. The function was arranged to do honor to Mr. Blyth and mark the changing of his business into a public company.

The toast "Our Guest" was submitted by Mr. H. Prell who referred to the many years his firm had acted as Victorian agent for Mr. Blyth, their relationships had been happy, and he spoke of Mr. Blyth's excellent qualities as a business man and a friend.

Cr. J. Stevens of Blackburn said he had known Mr Blyth for a great number of years, during which time Mr. Blyth had earnestly worked in the Fruitgrowers' interests.

Mr. Henry Lacey supported the toast, and on behalf of the assembled gathering presented Mr. Blyth with a canteen of cutlery suitably inscribed.

Mr. Blyth responded and thanked those present for their kind expressions. He was glad reference had been made to his wife, because she had helped him greatly as had the rest of his family, and last but certainly not least, his late employees had stood loyally by him.

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,

11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,
9 & 10 Botoiph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

Alternate intervals between the vine rows are sown in alternate seasons.

In vineyards that are not irrigated, green manuring is not so satisfactory. Early autumn rains fall only about one season in five. In their absence the seed does not sprout until the weather is too cold for active growth. It is inadvisable to await spring growth, since it would withdraw from the land moisture badly wanted later on.

The foregoing is a necessarily brief outline of a vitally important

New South Wales

Re-organisation of the Industry :: Orchard Wages
Lessons from last Season.

N.S.W. FRUITGROWERS' FEDERATION.

Annual Conference to be Held,
August 17.

At a meeting of the Board of the re-constituted Fruitgrowers' Federation of N.S.W., held in Sydney, on June 10, it was decided to hold the Annual General Conference of growers' representatives on August 17. The object of the Federation is to bring all registered orchardists and vignerons under the auspices of a central body. The constitution, under which funds have been granted from the orchard registration fees, provides for district conferences to deal with district and other matters, each to appoint ten representatives to the Annual General Conference. For this purpose the State has been divided into six provisional divisions, in which conferences will be held as

(approved by the Minister for Agriculture) is being sent to the growers, together with a brochure pointing out how and why the growers should organise. The growers are paying an orchard registration fee, which entitles them to membership of their district organisation. It is pointed out that local associations are essential to the success of the scheme in order to ensure that every grower shall have a vote and a voice in the management of the Association, through their district councils and ultimately through the Federation.

The value of fruit produced in New South Wales for the year that ended in June, 1925, was £1,866,620. This represented an increase of 35 per cent. in five years. During the same period the population showed an increase of only about 15 per cent. The Federation asks fruitgrowers to recognise that unless adequate steps are taken to cope with the increasing production, calamitous results may follow. This, it is claimed, can only be done by the close organisation of the growers in order that their views and requirements in the production, transportation, and marketing of fruit may be represented in the right quarters.

Growers are asked to form local associations which will have representation through district conferences at the Annual Conference of the Federation.

ORCHARD LABOUR IN N.S.W.

New Award Issued.

The award for orchard and vineyard employes in New South Wales, made in January last, having been declared invalid on the appeal of the Fruitgrowers' Federation of N.S.W., a new award was made last week, to take effect as from June 1, and to remain in force until January 27, 1929, says the "Farmer & Settler." The following amendments of the original award were made:—

Wages in the irrigation areas.—All rates under this heading, except those of permanent employes, are reduced by 3/- per week; permanent employes' adult rate is reduced from £4/12/6 to £4/4/-; casual employes' rates are to be at so much an hour in lieu of at so much a week as in the award. Permanent hands are to do all the work

they may be called upon to perform at permanent rates.

Rates fixed for permanent employes (youths) on the irrigation areas are as follows:—Sixteen to 17 years of age, £2/1/6; 17 to 18, £2/6/6; 18 to 19, £2/11/6; 19 to 20, £2/16/6, and 20 to 21, £3/6/6.

In all other parts of the State casual employes' rates are altered from £4/10/- a week to 15/- a day. All other rates are to be as fixed in the committee's original award, except by the substitution of a paragraph giving the same rates for youths (male and female) as to permanent youth employes.

Overtime is to remain at time and a half rates for all work performed in excess of 48 hours a week, except on Sundays and holidays, for which double time shall be paid, subject to the following exception: "Provided, however, that on the irrigation areas of the State essential work may be performed on Sundays and holidays by mutual arrangement between employer and employe, without payment of overtime, subject to the condition that 48 hours is not exceeded

F. W. Vear

Fruit & Vegetable Salesman

Commission Agent

WESTERN MARKET
MELBOURNE, VIC.

Highest Market Rates Assured

Prompt Settlements

in any one week. When work is performed on Sundays or holidays one day off shall be granted in lieu thereof.

NON-SETTING OF FRUIT.

Lessons to be Learned from Last Season's Failure.

Non-setting of fruit has troubled orchardists generally during the present season, and explanations of the failure have been given some prominence. A typical instance of poor setting (of apples and pears) was investigated in the latter part of 1926 on behalf of members of the Batlow packing-house and the Batlow branch

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of
Apples, Pears, &c.,

Best market prices and prompt
account sales returned.
Correspondence invited.
Representative in Victoria

THE
International Fruit & Mercantile Co.,
410 Flinders Lane, Melbourne
MURDOCH BROS., Hobart

follows:—Southern district (Cootamundra), July 5; Central Coast (Gosford), July 7; Irrigation Area (Griffith), July 8; Central Tablelands (Orange), July 12; Metropolitan (Sydney), July 18; Northern district (Armidale), at a date to be fixed; General Conference, August 17.

The Fruitgrowers' Federation is using some of the money obtained from the orchard registration fees in an endeavor to improve the conditions of those engaged in the fruit-growing industry. With this object in view the ten thousand growers throughout the State are being invited to join the organisation, and a copy of the proposed constitution

of the N.S.W. Agricultural Bureau. Thrips seemed to be the main cause of the condition in some fruits, but it was accentuated by: (1) Unfavourable climatic conditions during the blossoming period; (2) weakness of the blossom buds caused by the dry spell last January and February; and (3) carelessness in cultivation.

Conserve Soil Moisture.

A very dry spell was experienced last season, and consequently (and especially in cases where a grower had been careless in cultural work) the vitality of trees, especially of those carrying fruit, was adversely affected. Insufficient or neglected cultivation results in greater loss of soil moisture, which lowers the vitality of the tree, a condition that is reflected in weakness of the blossoms.

Trees which carried no fruit last year, and, as a consequence, bore a lessened strain upon their vitality, and also trees whose owners pursued sound cultural methods, and thereby conserved sufficient soil moisture, set fair crops. Weak blossom buds take longer to develop than strong buds, and as a consequence the thrip has a longer period during which to carry on its destructive work; a strong blossom bud opens more quickly than a weak one, and fertilisation has more chance of taking place before serious damage is done to the organs of reproduction.

Combat Thrips.

Unfavorable weather conditions often retard the opening of blossoms, and in such cases also the thrip has a longer period during which to carry out its depredations. Frosts injure the essential organs of reproduction and prevent fertilisation, and also destroy young fruit after fertilisation has taken place. Cold winds and excessive rains greatly interfere with the activity of the bees, with consequently poor settings, and weak blossoms often fail to set fruit, no matter how favourable the conditions may be. There certainly was a combination of adverse factors at work at Batlow, but the predominant factor was thrips, says the N.S.W. Department of Agriculture.

There is no doubt that here, as well as in other districts, insufficient attention has been paid by a number of growers to conservation of soil moisture and the maintenance of soil fertility. Good results can only be obtained by good cultural work, and by improving the physical condition of the soil by ploughing in suitable green crops. Such treatment would, of course, react favorably upon the trees and upon their crops.

Imperial Fruit Show

Belle Vue Gardens
Manchester

Oct. 28th to Nov. 5th, 1927

£1500 for Empire Fruit

Australian growers and canners are invited to enter in the competitions for fruit grown commercially anywhere in the British Empire.

Classes are provided for Apples, Oranges, Grape Fruit, Lemons, and a large variety of Canned Fruits, for which £1,500 in cash prizes and trophies is offered.

A Special Challenge-Cup will be awarded for the best exhibit of Oranges grown in the British Empire.

Schedules of Classes and Prizes can be obtained from

The Fruit World Pty. Ltd.

Bank House, Bank Place

... MELBOURNE ...

Other enquiries relating to trade exhibits and advertisements in the Show Catalogue, should be addressed to the SECRETARY, IMPERIAL FRUIT SHOW, 5 BLOOMSBURY-SQUARE, LONDON, W.C.1.

The Fruit Trade

Market Reports and News Items

BRITISH AND CONTINENTAL MARKETS.

Australian Fruit on London Markets.

Apples in Good Demand.

London (30/5/27).

The Esperance Bay's apples were somewhat over-ripe, the wastiest selling at 6/-, and wasty 9/- to 11/-. Sound apples were in good demand, Western Australian Rokewoods and Sturmers bringing 15/- to 16/-; Granny Smiths, 19/- to 26/-; Cleopatras, 14/6 to 17/-; and others, 14/- to 15/-. Tasmanian Sturmers and Scarlets brought 14/6 to 15/-; Dunns, 13/6 to 14/6; New Yorks, 15/-; and others, 13/- to 14/-.

London, (1/6/27).

The market for apples is slightly easier. The Osterley shipment from Tasmania sold as follows:—Sturmers, 12/- to 14/6 a case; Scarlets, 13/6 to 14/6; New York, 13/- to 14/-; King Davids, 13/-; Munros, 12/6 to 13/-. Osterley and Barrabool shipments from Western Australia: Romes, 13/- to 15/6; Rokewood, 14/6 to 15/-; Cleos., 12/6 to 16/-, and a few at 19/-; Granny Smiths, 18/- to 24/-; few Sturmers, 17/-. Barrabool shipment West Australian pears: Keiffers, 5/3 to 7/3 a half case; Glou Moreceau, 5/- to 6/- a tray; Winter Nelis, 6/6 to 7/3; Josephine, 8/- to 8/3. Esperance Bay shipment Tasmanian pears: Easter Beurre, 16/- to 22/- a case, 3/- to 6/- half-case (wasty); Vicars, 6/- to 6/6 half-case.

Liverpool (2/6/27).

The Ceramic shipment of apples from Tasmania sold as follows:—Cleos., 13/- to 17/6 a case; Jon., 13/- to 16/9; Sturmers, 12/6 to 15/6; Crabs, 13/- to 15/3; Crow Eggs and Scarlets, 12/- to 15/-; and Alfristons, 12/6 to 14/- a case.

London (8/6/27).

Australian fruit sold here to-day realised the following prices:—

Tasmanian apples brought by the Barrabool, Banffshire and Comorin: Sturmers, 12/- to 16/6; Scarlets, 13/- to 15/6; Jons., 14/- to 15/-; Dunn's, 12/6 to 15/-; Five Crowns, 12/- to 14/-.

Pears shipped by the Comorin: Trays, Glou Moreceau, 4/6; Winter Nelis, 5/6 to 8/-; Vicars, 4/- to 5/-.

New Zealand apples, Horatius shipment: Jons., 15/- to 17/-; Sturmers, 15/- to 16/6; Statesman, 16/- to 17/-; Dunn's, 15/- to 16/6; Delicious, 15/- to 16/-; London Pippins, 14/- to 15/-.

Liverpool (8/6/27).

Tasmanian apples from the Persic brought: Cleos., 15/- to 17/-; Sturmers, 14/- to 14/9; Scarlets, 13/- to 13/9; Crabs, 13/- to 14/6.

London (10/6/27).

The market for apples is steady, the following sales having been effected. Tasmanian apples by the steamers Moreton Bay, Comorin, and Osterley: Sturmers, 12/- to 15/6 a case; Five Crowns, 13/- to 14/6; Scarlets, 14/- to 15/-. West Australian apples shipped by the Moreton Bay: Cleos., 16/- to 17/-; Rokewoods, 17/- to 19/-; Doughertys, 16/- to 17/-; Granny Smiths, 20/- to 25/-; other varieties, 14/- to 15/6.

Hull (10/6/27).

The market in Hull is firm on a strong demand from the Continent of Europe. Tasmanian Cleos. have been sold at 14/- to 17/3 a case, others at 12/6 to 14/9; Victorian Rome Beauties, 14/- to 16/-. Argyllshire shipment of New Zealand apples: Sturmers, 13/3 to 15/6 a case; Granny Smiths, 20/- to 22/6; Statesman, 14/- to 17/6; and other varieties, 14/- to 16/6 a case.

London (25/6/27).

New Zealand apples ex the steamer Port Caroline brought the following prices:—Sturmers, 16/- to 18/- a case; Jons., 18/- to 21/-; Statesman, 16/- to 20/-; Delicious, 18/- to 20/-; and Dunns, 16/- to 18/- a case.

The market for apples is firm, the Telamon shipment from Tasmania having been sold as follows: Granny Smiths, 15/- to 20/- a case; Cleos., 12/- to 17/-; Sturmers and Scarlets, 12/- to 18/-; Jons. and Crabs, 13/- to 16/-; Nonpareils, 15/- to 17/-; Scarlet Pearmaines, 17/- to 17/6.

Hull (25/6/27).

New Zealand apples shipped by the steamer Somerset have been sold in

Hull: Rome Beauties, 17/6 to 24/6 a case; Statesman, 21/- to 26/-; Doughertys, 20/- to 23/-, and Rokewoods, 20/6 to 25/- a case.

Hamburg (28/4/27).

Messrs. J. H. Lutten & Sohn report the sale of the first direct cargo from West Australia, some 24,000 cases Apples and some 1,500 cases Pears ex s.s. Woodarra. Prices ruled as follows (Mark equals 0.97 shilling.):—

Apples, sizes 2½ to 3½ in.: Jonathans, M 14 to 20, mostly M 15 to 18; Cleos, M 16 to 28.50, mostly M 20 to 24; few Dunn's, M 17.50 to 29.

Pears: Clairgeau, M 21 to 32.50; Beurre Bosc, M 22 to 40.50; Beurre Josephine, M 33 to 37.50; Keiffer, M 25.50 to 28.50; Vicar of Wakefield, M 26 to 37; Louise, M 29.50; Beurre Rose, M 40.

There was a very big attendance of buyers in our two salesrooms, and the very good demand prevailing for Australian fruit remained unchanged.

Hamburg (5/5/27)

Messrs. Timm & Gerstenkorn report re Australian Apples: Generally speaking, these were of good quality and sound condition, though some lots showed some bitter pit and bruises. However, satisfactory prices were obtained:—Cleos, 18/- to 24/-, majority 19/- to 22/-; Dunn's, 17/- to 27/-, majority 19/- to 23/-; Munroes (very few only), 20/- to 23/-; Jonathans, 13/- to 18/-; majority 15/- to 16/-.

The few lots of Australian Pears arrived in very bad shape mostly, and some of them were absolutely worthless.

To-day's sale of about 100,000 boxes of Apples (79,000 American and 25,000 Australian) was the biggest auction of boxed Apples since the war, and it shows to what a considerable extent the Hamburg market is capable of absorbing foreign Apples.

AUSTRALASIAN MARKETS.

New South Wales.

Sydney (23/6/27).

Mr. F. Chilton, City Fruit Markets, reports:—

Queensland Fruits.—Bananas, 16/- to 30/- per case; Pines, Smoothleaf, 14/- to 20/- per case; do., Ripley, 10/- to 14/- per case; Tomatoes (North), 4/- to 6/- per half case.

N.S.W. Fruits.—Bananas, 14/- to 30/- per case; Lemons, 6/- to 10/- per bus. case; Oranges, 5/- to 10/- per bus. case; do., Navel, 8/- to 12/- per bus. case; Mandarins, 3/- to 12/- per bus. case; do., Thornies, 3/- to 6/- per half case; Apples, G.S., 14/- to 20/- per bus. case; Passions, 6/- to

14/- per half case; Grapes, Ohanez, 8/- to 11/- per half case.

Tasmanian Fruits.—Apples: Jons., 11/- to 15/- per bus. case; F.C., 11/- to 15/-; S.P.M., 9/- to 14/-; Geeveston Fanny, 11/- to 14/-; N.Y.P., 9/- to 14/-; S.T.P., 8/- to 11/- Pears: W.N., 4/- to 8/6 per half case; W.C., 5/- to 8/6; Jos., 6/- to 9/-.

The demand is firm for choice varieties of Apples, and it is expected that prices will advance. Citrus fruit has improved slightly in value, but small Mandarins are difficult to dispose of.

South Australia.

Adelaide (18/6/27).

Apples (eating), 16/- to 18/- per case; (cooking), 14/- to 16/-; Bananas, 28/- to 32/-; Lemons, 10/- to 11/-; Melons (pie), 4/- to 5/- per cwt.; Almonds, 12/- to 14/- per doz. lb.; Brazilnuts, 14/- per doz. lb.; Cocoanuts, 4/6 per doz.; Peanuts, 1/- per lb.; walnuts, 12/- per doz. lb.; Barcelonas, 13/- per doz. lb.; Oranges (com-

to 13/-, N.S.W., 10/- to 12/- Navel Oranges: Murray districts, Vic., 12/- to 14/-; Murray districts, S.A., 13/- to 15/-; Goulburn Valley, 10/- to 12/- Passion Fruit, Vic., 13/- to 24/- Pineapples: Queens, 15/- to 18/-; roughs, 12/- to 14/-.

Queensland.

Brisbane (15/6/27).

Local Fruit.—Lemons, prime, 4/- to 5/-, others 2/- to 3/-; Limes, 3/- to 5/-; Pineapples, Smoothleaf, 5/6 to 6/6 case, 1/6 to 4/- doz., rough, 1/6 to 4/- doz., 4/- to 7/- case; Passion Fruit, 5/- to 9/-; Papaws, 2/6 to 7/6; Mandarins, 10/- to 17/- case; Custard Apples, 1/- to 3/- case; Oranges, 6/- to 12/-; Navel Oranges, 10/- to 14/-; Rosellas, 4/6 to 6/- bag; Strawberries, 6/- to 12/- doz. boxes.

Tasmania.

Hobart (18/6/27).

N.Y.P., choice 10/- to 10/7, good, 9/- to 9/6, fair, 8/- to 8/6, small and marked lots, 5/- to 7/6; S. Pell, 9/- to 10/-; fair, 9/- to 9/6; medium, 6/6 to 8/6; small, shrivelled and spotty, 2/6 to 5/6 case; C.P.M., small to 5/-, good 8/6 to 9/-, fair, 7/6 to 8/6, spotty and small, 2/6 to 5/-; Jon., choice 9/6 to 10/3, medium 6/6; F.C., medium 4/6 to 5/3; P.A., 5/2; Delicious, fair 8/-, C.E., soft 5/1; T.P., medium 4/9 to 5/9; F.C., fair 7/6 to 8/3; other small and spotty fruit, 3/- to 4/6 case; Pears, W.N., spotty 4/-; N.P., 1/6 to 4/- case.

Western Australia.

Perth (14/6/27).

Apples: Jons., dumps 8/- to 10/-, special 12/3, and others from 3/-; Granny Smith, dumps 10/- to 15/-, special 17/9; Cleopatras, prime dumps 7/6 to 9/6, special 11/-, others from 5/-, flats 5/- to 7/-; Dunn's Seedling, prime dumps 8/3 to 10/-, special to 14/-, others from 7/4, flats 4/- to 7/-; Rome Beauties, dumps 5/3 to 9/-, special to 12/9, and others from 4/-, flats 5/3 to 5/6; Yates, dump 6/- to 10/-, special to 14/6, and others from 3/6. Pears, dump 6/- to 9/6. Oranges, Navels, dumps 7/9 to 11/-, special to 14/-, flats 5/- to 8/-; Mandarins, flats 6/1 to 10/-, special to 14/- Lemons, flats 3/- to 5/6.

New Zealand.

Dunedin, (10/6/27).

Messrs. Reilly's Central Produce Mart Ltd., report:—Large shipments of American fruits arriving, Mission brand Lemons realising 40/-, Festive 37/6, and other brands 38/- to 39/-; Mission brand and A.N.A. Co., brand Oranges, 39/- to 41/-, according to

sizes. N.S.W. navels, 22/6 for special quality in gins, choice Mandarins 21/-; really first class Grapes, 18/6, Adelaide Grapes, Ohanez, 18/6; Berri Mandarins, 26/-; Berri Grapefruit, 18/-; Mildura Lemons, 17/6; Sydney Lemons, 14/-; Queensland Pineapples, 26/-; Passion Fruit, 18/-.

At the moment we recommend consignments of choice Grapes, which we expect will realise 22/- for 3 cases, Navel Oranges, Mandarins, and Grapefruit.

V.C.C.A. MARKET REPORT.

The Victorian Central Citrus Association supplies the following report of the Melbourne Market for the week ending June 24:—Trade through the week for all classes of citrus fruits has been on the quiet side. There was a fair carry-over of stocks when sales were completed, and we anticipate a fall in values during the coming week. Practically all Lemon stocks are cleared. Consignments of these in small lots should realise payable values. The average prices for all

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

varieties during the week should work out at the following rates:—

Navel Oranges: A quality special, 11/- to 15/-; B, do., 10/- to 14/-; C do., 9/- to 13/-, Standard 1/- lower. Common Oranges: N.S.W., 7/- to 10/-, Vic. Best 9/- to 12/- Mandarins: Supplies slightly above normal had the effect of lowering values. A quality special sold from 10/- to 12/-; small to medium, 5/- to 8/- Lemons, 6/- to 9/-.

CHILEAN NITRATE OF SODA.

Owing to the need for economy, the Chilean Nitrate Committee has decided to close the offices of the Delegation for Australia, New Zealand, and the South Pacific Islands from June 30, 1927. Arrangements have been made for shipping and distributing supplies of Chilean nitrate of soda into Australia and New Zealand, and supplies may be obtained from all reputable fertiliser firms.

Bankers: COMMERCIAL BANK OF AUSTRALIA,

Collins Street, Melbourne.

Remittances with Account Sales rendered promptly.

FOR A SQUARE DEAL

Consign your Fruit to

FRUITGROWERS DEPOT

(Licensed and Registered
Government of Victoria).

Managing Director—M. J. FOY.

Wholesale Fruit and
Produce Commission Agents

Importers and Exporters of Interstate Fruit

471 Flinders Lane, Melbourne
TELEPHONE F 1392.

Telegrams: FRUITGROWERS,
471 Flinders Lane, Melbourne.

mon), 9/- per case; (Mandarin), 16/- to 18/- per case; (navel), 12/- to 14/- per case; (poorman), 8/- to 9/- per case; Passion Fruit, 28/- to 30/- per case; Pears (eating), 16/- to 18/- per case; (cooking), 12/- to 14/- per case; Pineapples, 33/- per case; Strawberries, 1/6 per lb.

Victoria.

Melbourne (23/6/27).

The following were the ruling wholesale quotations at the Western Market:—Apples: Good to choice eating, 14/- to 16/-, good to choice cooking, 12/- to 14/-; Tas., 12/- to 16/-; Bananas—Queensland: Special, 24/- to 28/-, choice 20/- to 24/-, standard 15/- to 18/- Grapes, Ohanez, 10/- to 13/- Lemons, Vic., 6/- to 8/- Mandarins, N.S.W., 8/- to 12/- Oranges Murray districts in Vic., 12/-

South Australia

Successful Plum Export : Notes from Berri
Grapes and Wine

S.A. PLUM EXPORT.

Recommendations from Brokers.

A report of the shipment of S.A. plums to England per s.s. Jervis Bay states that the parcel turned out fairly satisfactorily, but some of the plums developed chill, which necessitated a quick sale, and some of the fruit turned out on the immature side.

Regarding the general "get up" of the shipment, it is stated that the package compares very unfavorably with the South African article. The stencilling was an improvement on former years, but still leaves much to be desired. All particulars should be marked on the end of the tray.

In some of the trays containing fruit in a forward condition, woodwool was adhering to the fruit. This considerably lowered the attractive standard, and could have been avoided had paper been placed on top of the fruit before laying on the woodwool. The packing generally was not well carried out, the majority of the Plums being merely laid on paper (not wrapped) and packed in a very regular manner. In order to enhance the attractiveness of the fruit when opened, it is necessary that it should be well wrapped, and the packing carried out in regular rotation. These soft fruits arrive in London when the market is well supplied with similar fruit from South Africa, and exporters must aim to prepare a package equally as good as the South African article.

The fruit generally was very small, the range of counts being: Greengages, 76, 95; Shippers, 54, 60; Presidents, 50; Giant Prune, 52 up to 96; Egg Plums, 50, 54, 60; Grand Dukes, 65 up to 77; Jeffersons, 60 up to 70; Diamonds, 60 up to 70; Golden Drops, 60; Purple Gage, 85.

Gross averages realised: 72 trays Greengages, 7/6 per tray; 90 trays Shippers, 7/4; 3 trays Presidents, 5/-; 91 trays Giant Prunes, 2/9½; 15 trays Egg Plums, 4/6; 19 trays Grand Dukes, 4/-; 48 trays Jeffersons, 4/0½; 15 trays Black Diamonds, 3/8; 5 trays Golden Drops, 10/-; 6 trays Purple Gages, 2/6.

The overall average for the 364 trays is 5/4, while the six cases special packing realised 12/6 per case, which equals 2/1 per tin.

A report from the department's

brokers suggests that such varieties as Giant Prunes are not likely to become a commercial proposition. From a selling point of view the best varieties sent were the Greengages, Shippers, and Golden Drops, particularly the former. Greengages are not received from South Africa, and are very popular with the English public. The Gages in this shipment were much too small. The flavour of

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and
— economical on the market —
We manufacture a complete range
— of Sprays for the Orchardist —
including Arsenate of Lead (paste
and powder), Lime Sulphur, Red
Spraying Oil, Copper Soda Mixture,
Benzole Emulsion, Spray Spreader
etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES
Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

such varieties as Jeffersons and Egg Plums is apparently affected by the long period in the refrigerator, though looking well, they were practically flavourless. Black Diamonds were also excellent in appearance, but there is no great demand for this variety.

This report also refers to the need for better trays and more attention to packing.

EXPORT OF GRAPES

Report of Government Produce
Department to June, 1926.

The Department shipped 170 cases of Grapes (Ohanez) to London per s.s. "Comorin," on April 1, 1926, on account of the Department of Agriculture, Berri Orchard.

The fruit was packed in granulated cork, and landed in very good condition. The average price obtained was £1/0/8 per case, gross London (20 lbs. weight per case).

Wine.

During the year, 26,542 gallons of wine passed through the Department under Government certificate for shipment to the United Kingdom.

The exports of wine under certificate for the last five years have been:—

	Gallons.
1921-22	7,285
1922-23	22,855
1923-24	37,980
1924-25	13,120
1925-26	26,542

The Berri Distillery.

Up to June 21 the total tonnage passed over the Berri Distillery weighbridge amounted to 19,229 tons. Consideration is being given to the question of further extending the company's plant, in order that the enormous tonnage may be handled as expeditiously as desired.

It is understood that experiments are being conducted by the Adelaide University with a view to finding a means of neutralising the objectionable smell which rises from distillery waste drained on to the river flats below the distillery.

Berri Packing Shed.

The dried fruits pack for this year at the Berri Co-operative Shed was finished about the middle of June, with a total of 1,500 tons. This represents an increase of approximately 50 per cent. on the previous largest pack.

Preparations are being made for the erection of new premises near the new railway line. These will be more centrally situated, and the management expect a busy time ahead.

GRAND NATIONAL SHOW OF VICTORIA.

This year the Department of Agriculture of Victoria has decided to hold the Grand National Show at Shepparton, on Tuesday and Wednesday, October 25 and 26. This will be Shepparton's Jubilee Show.

SUBSCRIBERS' PAYMENTS RECEIVED.

We acknowledge with thanks having received, at Head Office, the following renewal subscriptions from our readers up to May 20, 1927. Except where otherwise stated, the payment is made to June, 1927. The list does not include payments to our branches in the other States, nor deliveries through our wholesale distributors.

If any reader wishes to have a receipt we will forward same on application.

Aust. Fruit and Produce Co., J. H. Hastell, Ph. Astheimer & Sons, African Explosives & Industries Ltd., F. U. Allsopp, A. J. Alden (June, '29); Anderson-Barngrover Mfg. Co. (Feb., '28); Algemeene Vruchten Import Maatschappij (June, '31); C. Bunn, Ed. Behrens, A. J. Brownjohn, R. G. Bosanquet, H. G. Browne, R. Beresinsky, J. Bray, G. Butt, T. M. Brown (Dec., '28); E. Beales (Sept., '28); E. Brighton (March, '27); W. Bray (Dec., '27); J. F. Bailey (March, '28); E. F. Belcher (June, '28); Buzacottis (Q'land) Ltd. (April, '28); P. J. Curnow, A. S. G. Carlyon, C. M. Coomer, Co-op. Frwgs. of Otago Ltd., J. C. Collins, Cook Island Administration, J. Collins, J. S. Cant, F. W. Chesterfield (June, '28); J. Cockburn (June, '28); J. W. Cox (June, '28); E. J. Dunn, Godfrey Deck, J. E. Drage, Darter Bros., K. J. O. Dunning (Dec., '26); Rev. F. Davis (June, '28); A. E. Dix (June, '29); Donkerhock Fruit Syndicate Ltd. (June, '29); B. Edwards, C. W. Einam, A. Filsell, Fowlers Pty. Ltd., E. V. Fankhauser, J. Firth, F. Franklin (Feb., '28); W. E. Feltham (June, '28); H. L. Goulter, H. Gill, R. Glendinning, W. & C. Gowie, Grasselli Chemical Co., T. V. Gamean, J. A. Grassick, R. Griggs, S. P. Gollings, George Bros (April, '27); J. & H. Goodwin Ltd. (June, '28); Lieut.-Col. E. J. D. Gordon (June, '28); Murray Hone, A. E. Halliday, D. J. Hughes, W. A. Holmes, W. H. Hutton, J. G. Hoare, M. G. M. Hanifa & Bros., P. Hone, C. J. Hill, E. P. Horton, W. Hoffman H. K.

Heddlie, G. E. T. Hill, Humber Fruit Brokers Ltd., Hanlin Bros., Harrison & Sutchberg, G. Hughes, M. & C. Hanniga, C. W. Howard, E. E. Hasey (June, '28); S. Hawkes (Feb., '27); H. O. Hannaford (June, '29); Geo. V. Hyne (June, '29); C. Harris (June, '28); Geo. Healey (June, '28); G. & W. Hester (Dec., '29); Imperial Bureau of Entomology, Imperial Bureau of Mycology (June, '29); H. Swift Johnson, A. N. Jones, M. G. Jones (March, '27); M. Kenny, J. H. Kidd, Keeling & White Ltd., G. E. Kneebone, A. H. Kealley, A. Luckett, K. Mason, G. Mock, J. Morgan, A. Moore, J. M. Muir, D. Mellis, H. Morphet, W. J. Muchleback, Phil. Millar (June, '28); W. Meggs (June, '29); W. Moyle (April, '28); F. J. McNamara, McFarlane & Co., A. McKee, J. N. McDougall, W. McEachern (Nov., '27); H. E. Napier, J. Neil, J. T. Osborn, Oppenheimer Bros., G. A. Peart, H. E. Pickworth, W. H. Passmore, W. Paynter, D. Pfrunder, Pickford's Colonial Ltd., Panton Hill Progress Assoc., Wm. Poynton, F. W. Pearce, Mrs. Prescott, L. H. G. Polchet, A. O. Pike, A. Peacock (June, '28); H. Pump (June, '29); L. S. Payne (June, '28); H. E. V. Pickstone (June, '29), Park Orchard Co. (June, '28); E. J. Rossini, T. B. Robson, H. N. Rossei, Rhodes Fruit Farms Ltd. (June, '29); E. Ray (June, '30); F. Supplice, W. H. Salisbury, Wm. Shaw, Louis Salmond, E. S. Smith, A. Strachan, Ivan L. Stone, Swan Settlers' Assoc. Ltd., E. Stanton.

H. G. Stuttered, E. G. Smith, J. H. Semmens, D. Stuart (Feb., '28); L. R. Scott (April, '28); Thos Smith (June, '28); H. S. Scobbi (Feb., '27); E. F. Steinmetz (June, '28); W. Seabrook & Sons Ltd. (June, '31); J. V. Smailes (June, '28); H. Trevenner, H. W. Taylor, S. P. Taylor, E. Turner & Sons Ltd., Jas. Thomas, Trescowthick Bros., J. Turner (Jnr.), L. C. Tonkin (June, '31); C. R. Toogood (June, '28); F. Tucker (June, '28); Wm. C. Voss, Victoria Cross Mfg. Co., H. Vick (Oct., '26); N. H. Vincent (March, '28); P. G. Wescombe, T. G. Williams, J. H. Wright & Co., H. S. Wark, Worsley Bros., Williams Bros. & Snow, A. Woodlands, Westralian Farmers Ltd., L. J. M. Western, F. Win, R. G. Wells (June, '29); P. L. Watson (Nov., '26); A. H. Wilson (April, '28); S. Young, C. W. Ziele.

ROOT-BORER BEETLE.

Control Experiments in Victoria.

We have received from the secretary of the Fruitgrowers' Cool Stores Association of Victoria copy of a letter from the Superintendent of Horticulture outlining the position in regard to the Root-borer Beetle, which is of general interest. The letter, dated 25th February, 1927, reads:—

"In reply to your communication of the 23rd inst., in which it is asked what steps have been taken by this department to combat the Root-borer Beetle, I have to inform you that experiments have been carried out in this connection by Mr. French, Government Entomologist, and Mr.



GIBBS, BRIGHT & CO.—See Page VI

The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

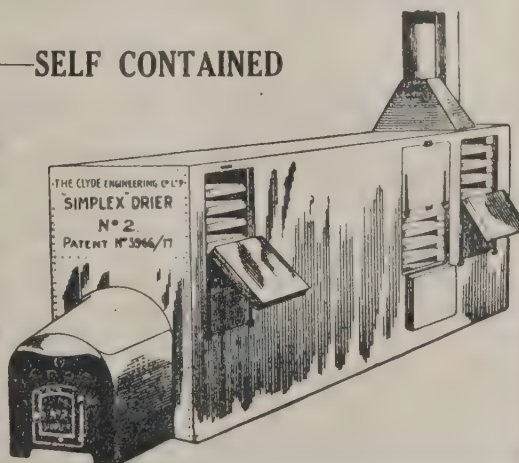
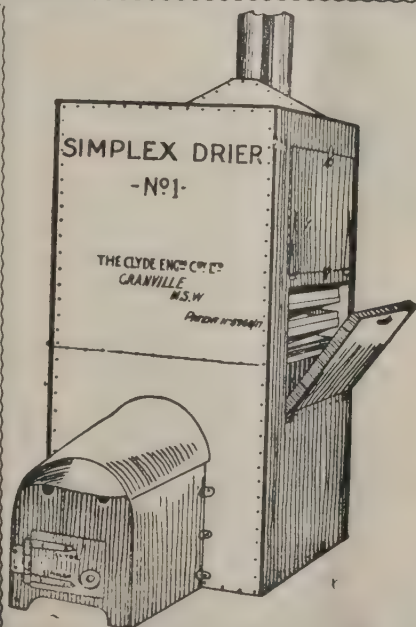
SIMPLE — SELF CONTAINED

Made in Sizes to suit

Householders

Small Orchardists

or
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

Hammond, Senior Orchard Supervisor (vice "Journal of Agriculture," January, 1926).

"In these experiments, tests were made with soil fumigants and insecticides as well as explosives. These were as follow:—Chloro-Pierin Gas, Bisulphide of Carbon, Phenyle, Corrosive Sublimate, Lotol, Paradichlorobenzene, Sulphate-Carbonate of Soda, and Sulphate-Carbonate of Potassium.

"The explosive used was gelnignite. The use of this explosive proved to be effective against the larvae of these insects.

The best results were obtained with the Sulphate-Carbonate of Potassium, when this was applied during the winter months, the soil being at that time in a saturated condition. Further tests with this material are to be carried out.

"It is also hoped that a biological control may be afforded by the better

protection and utilisation of its natural parasite, a small Braconid wasp (*Perilitus leptosi*). Yours faithfully,

(Signed J. M. WARD,
Horticultural Superintendent.

A NEW NITROGENOUS FERTILISER.

Announcement is made elsewhere in these columns of the arrival upon the market in Australia of one of the latest achievements in artificial fertilisers. This manure, "Di-Ammon-Phos," with a number of others no less interesting, owes its manufacture to one of the greatest triumphs of the age, namely, that of the fixing or harnessing of the nitrogen in the air.

During the war, an unexpected stimulus was given to the fixation of nitrogen, and in 1925 half-a-million tons of nitrogen were being extracted

annually from the air by this process alone. By far the greater proportion of this nitrogen is used in the production of fertilisers. The agricultural chemist has left no stone unturned to produce the most suitable manures for the farmer. Amongst a number which he has designed, and which are being exported all over the world in large quantities are Di Ammonium Phosphate and Synthetic Urea.

The main aim in producing these manures has been to combine the plant foods chemically in as soluble and as concentrated a form as possible: soluble, so that the food may be available as quickly as possible; concentrated and pure so that the expense of cartage, handling, and application may be reduced to a minimum, and that there shall be present nothing that is not entirely beneficial to plant life. Di-Ammon-Phos presents an ideal combination of ammonia and phosphoric acid. The substance is a clear, white, crystalline compound, which does not absorb moisture on storage, and it is absolutely non-acid and odourless. The crystals are easily broadcast or distributed. The compound contains nothing but plant food—as much nitrogen as sulphate of ammonia, and 2½ times as much phosphoric acid as ordinary superphosphate. This compound should be an ideal fertiliser for fruit trees of all descriptions, for every one part of nitrogen it gives to the tree, it affords 2½ parts of phosphoric acid, so that a perfect balance should be maintained between leaf, stem, and wood growth on the one hand, and root, flower and fruit development on the other.

"Di-Ammon-Phos" mixes perfectly with potash, and may be applied without fear of developing the wood-bud at the expense of the fruit bud, as there is sufficient phosphoric acid present to withhold the vigour of the nitrogen. "Di-Ammon-Phos" has already proved its value, and justified its cost in the growth of vegetables, beet, flowers and grass.

Other manures which Dyes & Chemicals (Aust.) Limited will be marketing shortly are:—

Synthetic Urea—the essential ingredient of stable manure, containing 46 per cent. nitrogen in an organic form, also

Nitrophoska—the most interesting manure ever produced in the world—the chemical combination of potash, ammonia, and phosphoric acid.

Fruitgrowers are recommended to test "Di-Ammon-Phos" in their orchards this coming spring.

The Chemist writes it thus
 $(\text{NH}_4)_2\text{SO}_4$

But the Farmer—he writes it like this
*Greater profit
per acre*

They both mean the same

They both signify

SULPHATE OF AMMONIA

The chemist knows what Sulphate of Ammonia IS, while the up-to-date farmer or orchardist knows what it will DO. Describe it whatever way you like to him, his interest in Sulphate of Ammonia arises from the fact that its use on his crops means money in his pocket. By the record sales of Sulphate of Ammonia we somehow imagine that the up-to-date farmers and orchardists are in the majority. Are you one of them?

Write to-day for Information on Sulphate to
THE METROPOLITAN GAS CO.
196 Flinders Street - - - MELBOURNE

The Success of Your Orchard— Depends upon the Success of your Implements

“Harvey” Single and Double-Furrow
Plows will make this Success for you



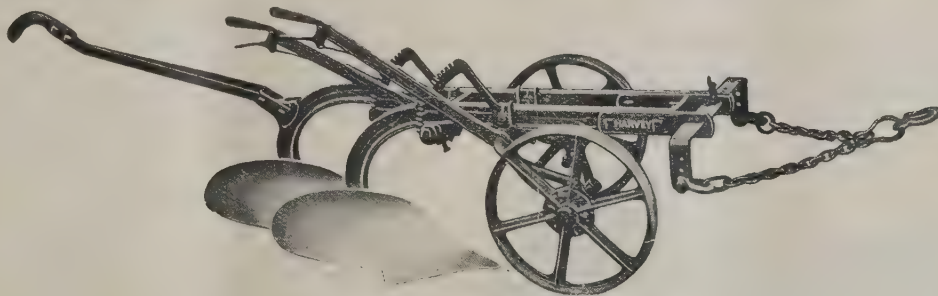
“Harvey” Single Furrow Plow, ploughing right up to the butts of the trees.

Single Furrow Orchard Plow

The “Harvey” Single Furrow Orchard Plow, with Shifting Handles and Head, will Plow on or off to the butts of the trees, as shown in illustration.

In plowing away, the strips between the trees can be cut right out with this Plow, leaving no strips to dig, and doing away with the necessity of cross plowing, strip digging or chipping.

Write for particulars of the “Harvey” Orchard and Vineyard Strip Digging Hoe for taking out strips under the trees and vines.



Orchard and Vineyard 2-Furrow Plow.
This Plow is shown with One Handle. Can be converted to three furrows.

This Plow has extra good clearance between Mouldboard and Wheel, also under Beam. Levers are low when at work, wheels are fitted with Grease Cups and dust proof removable boxes. Single Handle can be set either to the near or off side of Plow when plowing close up. The Plow is fitted with a sliding Head Rack in order to Plow on, or back off, close up to the vines and trees. It is also constructed in such a way that the draught may be raised or lowered for plowing very hard or soft ground.

The Pull being from both ends of this Head Rack and the chain being adjustable by a grablink, the Plow always pulls square when off set under the trees.

The Land Wheel is constructed so that it can be set in or out as desired for Orchard Cultivation.

Guaranteed to do Good Work.

Write for Catalogues of complete range of Orchard and Vineyard Horse and Tractor drawn Implements. Free

D. HARVEY, Implement Manufacturer
BOX HILL, MELBOURNE

SHOWROOM: 440 ELIZABETH STREET, MELBOURNE

AGENTS IN ALL LEADING DISTRICTS



Regular use of "Karswood" means full egg-boxes

THE recommendation by one friend to another is the true test of Karswood's greatness. Here we have yet one more instance in which one poultry owner having splendid results from feeding his fowls with Karswood, recommends its use to a friend. Within three weeks the friend, too, much to his pleasure and surprise, has equally good results. Karswood Poultry

Spice contains dried and ground insects, and it's this fact principally that makes Karswood such an invaluable food tonic. No poultry owner should be without it, for, in plain simple language, its use means full egg-baskets instead of empty or partially empty ones. Read in the testimonials how doubters who came to scoff returned to give Karswood a trial.

Splendid Results.

Dear Sirs,—

It gives me much pleasure in relating to you the wonderful results I have obtained in using Karswood Poultry Spice. My friend, Mr. Robinson, advised me to try it six weeks ago, he having used it, with splendid results, so I sent straight away for a packet, and in the first week I could see the difference in my hens. I might tell you that they were hanging in the moult, but after a fortnight of Karswood they had completed the moult, and had actually started laying, and, thanks to the Spice, they have been going strong ever since. I have been telling my friends about Karswood Poultry Spice and its results, but one or two doubted my word, so I brought them down and showed them my Rhode Island Red pullets and the eggs I was getting, and I can tell you they altered their tune. They have some the same as mine, and they are not laying yet, so they now intend to give Karswood a trial.

(Sgd.) H. J. BRADLEY.

Forrestville, S.A.

480 Eggs—7 Hens—May–November.

Dear Sirs,—

My fowls started laying in May, and up to the present (November) they have laid 480 eggs. The number of fowls I have is seven White Leghorns and one rooster. I feed

them on pollard—seven handfuls mixed with scraps from the table, and a teaspoonful and a half of Karswood Poultry Spice. My birds are all healthy and fat.

Everyone I meet in the poultry line I will tell them of your Karswood Spice.

(Sgd.) A. A. LEE.

East Brunswick, Melbourne.

Make This Test.

Go to your local grocer, storekeeper, or produce dealer. Get a 1/- packet of Karswood Poultry Spice, then give it to half-a-dozen of your birds, in accordance with the directions on the packet. Do not expect immediate results; Karswood works naturally, not suddenly. It takes at least a fortnight to produce results, but they are good and sure.

Note the Economy.

1/- packet supplies 20 hens for 16 days.
2/- packet supplies 20 hens for 32 days.
13/- (7 lb. tin) supplies 140 hens for 32 days.

Supplies.

Karswood Poultry Spice is obtainable from all wholesalers and stores at the following standard retail prices:—

½lb. packet	Price, 1/-
1lb. packet	" 2/-
7lb. tin	" 13/-
14lb. tin	" 25/-
28lb. tin	" 48/-

Poultry and Beekeeping

THE ECONOMIC ASPECT OF DUCKS IN FRUIT GROWING.

(By J. G. Maynard, Long Ashton Research Station, in the "Utility Duck Club Year-book, 1927.")

(Concluded from page 255, last issue.)

THE SOFT FRUIT SEASON, extending as it does from June until well into August, comes at the period when the number of ducks on the farms is greatest, and when human labor stands at a premium. From the time when the first drakes are saleable the number of birds naturally decreases, but the effective work done by one duck seems to increase steadily until it is about four months old.

(Note.—The seasons referred to of course apply to summer and autumn in England, but the general principles are of interest in Australia.—Ed. F.W.)

During August, September and October the utility of the labor battalion is high, for it is the period when considerable weed growth takes place, and much human labor is still required for the Plum, Apple and Pear harvest. Given the co-operation of the ducks, the human labor that can be spared for cultural purposes can be used to good effect without finding much rank weed growth to deal with, and without the disheartening sight of weeds growing again rapidly behind the hoe.

Unless the ducks are already in suitable quarters for wintering, they are moved before they reach laying age, though if this move can be avoided so much the better.

During the second and third years of the bird's life, culling takes place periodically. Birds for the breeding pens are selected and are given practically free range in a grass orchard under standard trees, when possible being given the use of a pond. The working flocks are transferred to different parts of the farm, as far as possible, when laying is not likely to be seriously affected.

The method of folding adopted is to run the ducks in flocks at the rate of about 140 to the acre,

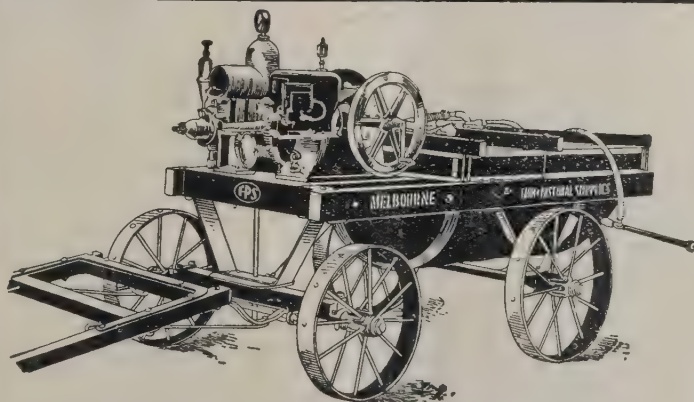
and to move the folds as often as necessary. In practice a single flock of 140 on a plot of one acre is not very satisfactory, and flocks of about 30 are used as a unit on a proportionately small area. Moving the folds is quite a simple matter, as only two-foot wire netting is necessary, supported by bamboos. Methods of setting out the netting vary according to the shape of the plot, but it is generally possible to arrange part of the netting in a semi-permanent position, and only to move a comparatively small length when the time comes to alter the fold. Housing, though quite unnecessary for the ducks, has to be provided here on account of theft and foxes.

This system, considered as a method of making money directly out of ducks, is not an ideal one, but given the not unreasonable average over a

three-year period of 360 eggs per bird, the income and expenditure accounts should about balance. During almost the whole of their lifetime, the ducks have been releasing human labor for more profitable work, and this item, though not easily calculated, stands to the credit of their account. The residual manurial value of their food also improves their position, and the amount of good they do in destroying insect pests is probably considerable.

The one great defect of ducks for folding purposes, is that they do not stir up the soil, but definitely puddle it down. In the spring and summer this must be got over by cultivation, but probably it is not serious in late summer, except in times of severe drought, then cultivation must be resorted to. This cultivation for aeration purposes can be carried out rapidly. Provided a good mulch is obtained early in the season and ducks are not crowded on the land, it is unlikely that really bad puddling will occur. A test is now being carried out here on a plot of red Currants, and where no cultivation is given and ducks do all the work. Naturally, this must be continued for some seasons before any very definite results can be seen. No cultivation has been done for the last 18 months; the bushes have made good growth

THE NEW HERCULES SPRAYER



The Machine that has been adopted by the leading Orchardists of Victoria, and proclaimed by them to be the most efficient and reliable Orchard Sprayer obtainable. Supplied with 1½, 2½ or 3½ h.p. HERCULES Engine, geared direct to Metters' Double-acting Power Pump. Built also on two-wheel transport.

Write at once for particulars, or apply for a free demonstration in your own orchard.

THE FARM & PASTORAL SUPPLIES

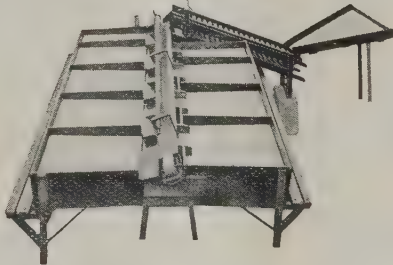
PTY. LTD.

Machinery Merchants,

500 BOURKE STREET, MELBOURNE

"To Choose the Best is Wisdom"

Money Makers



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

The reason for the use of a Fruit Grader is to make money for its owner, whether it is used for Deciduous or Citrus fruits.

The "Lightning" Products are all consistent money makers.

They are **SIMPLE, SOUND and DURABLE**, with unchallenged records of **SATISFACTORY SERVICE**.

Built in Models to successfully size **ORANGES, LEMONS, MANDARINS and ALL OTHER FRUITS**

We can supply you with interesting information about our complete up-to-date equipment for packing houses. This includes Brushes, Driers, Automatic Weighers, etc.

Our Catalog also shows a range of 14 models of Fruit Sizers, any one of which is suitable for the grower who packs his own fruit

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

and carried a good average crop this season. One most interesting point noticed on this plot, and elsewhere, is that fairly heavy folding of ducks helps very much in eradicating couch.

The advantage of using ducks for folding purposes under fruit, rather than other types of stock, is mainly to be found in the comparatively

low capital expenditure

involved. Ducks are easier and cheaper to rear than chickens; they need less fencing and often no housing; they do not fly into trees or bushes and damage these, nor do they peck at the fruit so much. The regular weekly receipts from eggs are a most useful asset in the case of either ducks or hens.

Pigs, although admirable for folding in orchards, their rooting about acting in exactly the opposite manner to puddling by ducks, and being highly beneficial to the soil if not carried to excess, have several drawbacks. The capital expenditure required is considerable, and, although they are a paying proposition at the present time, prices are very variable and pigs must often be sold at a loss for many months before good times come round again. They are also liable to do quite a lot of damage in orchards at times.

On account of the experimental nature of many of the plots on this

farm, it has not been possible to make use of ducks to the extent to which they might be used on a commercial fruit farm. The results here are, however, proving sufficiently satisfactory to cause a steady increase in the number of ducks kept on the farm.

DEAD HENS FOR FERTILISER.

One of the fruit growers in Oregon has found that dead hens make an excellent fertiliser for young fruit trees. He keeps about 800 hens in connection with his orchard, and the loss of hens by death amounts to from three to eight per cent. in different years.

He has adopted the practice of placing a dead hen in the vicinity of every young tree. He bores holes with a post auger beside the trees, inserts a dead hen and covers the same with soil. He has already covered half of his orchard. He states that trees removed a couple of years after a chicken had been planted had developed a mat of fine roots in the vicinity of the dead hen. In many cases, the feathers and bones were held in the firm grip of the roots.—"American Fruit Grower Magazine."

"Unduly high prices are always a sign of unsound business, because they are always due to some abnormal condition. A healthy patient has a normal temperature; a healthy market has normal prices."—Henry Ford.

BEEKEEPING NOTES.

BUILDING UP HIVES IN EARLY SPRING.

Beekeepers should see that their bees have ample stores of honey for the winter and early spring, and if there is a shortage feeding should be done at once. Satisfactory building up of the colonies in the spring depends upon many conditions which date back to the previous summer or autumn. If the colony was not in good condition last summer or autumn they may dwindle during the winter, thus making it impossible to build up in time for an early honey flow. Should the spring be unsettled and supplies on hand short the population of the hive will probably be reduced to an alarming extent, and make it almost worthless. Rapid building up in the spring therefore depends upon many conditions which date back to the previous summer. In order to have the colonies in good condition for the autumn and winter many of the larger honey producers re-queen their colonies annually, doing this some time during the summer, in order that the young queen shall be at her best during the autumn. This, together with an abundance of honey in the hive at all times, ensures a good colony for the winter. It cannot be too strongly pointed out that

the bees must have plenty of honey in the hive. Colonies which do not have a good supply of honey on hand should be fed lavishly during the six or eight weeks just preceding the main honey flow, unless the bees are gathering sufficient for their needs from the fields. Even in this case there should be a reserve of stores to tide over rainy days or cold weather. Probably more colonies fail to build up in spring because of insufficient stores than for any other one cause.

LOCATION OF HIVES.

Much has been written as to the best position in which to locate the hive, and it has an important bearing on results. An easterly or a north-east aspect is best, as these positions get most of the spring sun, and avoid the cold sea breeze or the equally objectionable north-west winds and rain striking direct on the entrance. It frequently happens, however, that the required positions are not available; they are in use for something else, and under these circumstances a wind shield should be used. Wind shields are, however, seldom seen in Tasmania. There should be a clear approach for the bees to the hive, and avoid overhanging boughs or long grass for the bees are apt to strike against these, and if heavily loaded will probably never reach the hive. It is noticed that bees always seem to take the clearest path to the open sky, and locate their regular route accordingly. I have often stood in front of a group of hives and frequently been struck by bees returning from the fields, but seldom by those going out. Ordinary telegraph or telephone wires may, under some circumstances, be an obstruction, but generally speaking they are above the line of flight, and are therefore not in the way. The

outgoing bees who rise rapidly seldom seem to strike such wires, while the incoming bees who are loaded, and who usually fly about 5ft. to 8ft. from the ground, are well beneath them. Wire netting, even of a large mesh, should not be close to the bees, and if it is so it will probably cause a good many casualties. If it is within a few feet of the hive both the outgoing and the incoming bees will most likely pass through the wire, but it will be found that it is chiefly the laden bees that are injured. If the wire netting is placed there for the purpose of keeping fowls or poultry then so much the worse for the injured bee. It is, of course, difficult to estimate the loss caused to a hive by this means, but as bee strength is the first object of all apiarists any loss of numbers, if avoidable, should be certainly stopped. Some beekeepers often crush quite an unnecessary number of bees when they are operating a hive, and these people do not deserve any success.—By "Loray" in the "Tasmanian Fruitgrower and Farmer."

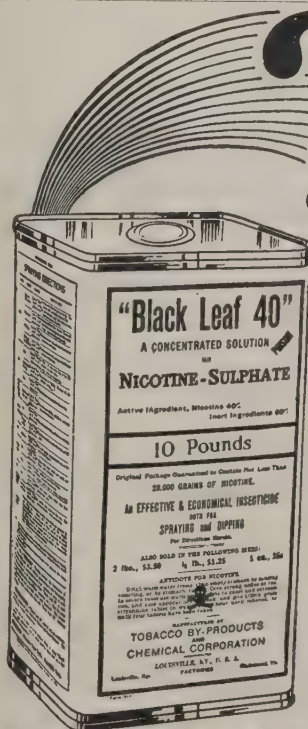
THE DRIED FRUIT GRUB.

Speaking at the Interstate Citrus Conference held in Melbourne early in May, the Minister for Markets and Migration (Hon. T. Paterson) stated that the field of enquiry in regard to the grub in dried fruits had been narrowed down by Dr. Myers, the noted entomologist who was visiting Australia at the invitation of the Council for Scientific and Industrial Research.

It seemed to be conclusively proved, said Mr. Paterson, that Australia was not altogether responsible for the grub which appeared in dried fruit, and it could be looked for elsewhere.



(GIBBS BRIGHT & CO.,—See Page vi.)



Why

be satisfied
with dwarfs
and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated

Louisville, Ky., U. S. A.

Kills
Aphis

"Black Leaf 40"

40% Nicotine

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

CONTROL OF THRIPS.

"Black Leaf 40" (Nicotine Sulphate) used in U.S.A.

Mr. F. Chilton, City Fruit Markets, Sydney, has forwarded the following extract from a letter received by him from the Tobacco By-Products and Chemical Corporation of Kentucky, U.S.A.:—

"In recent issues of the 'Australasian Fruit World' we have observed reference to injury from thrips in Australia, with an apparent lack of information as to control methods. 'Black Leaf 40' has long been recognised as the control for thrips in this country (such as Pear thrips, attack-

ing Pears, Prunes, Peaches, Cherries, and other deciduous fruits, and also the citrus thrips, attacking Grapefruit, Orange, and Lemon). The practice is to combine 'Black Leaf 40' with oil sprays on the deciduous fruits and with lime-sulphur solution on the citrus fruits—for thrips control. We offer this with the hope that it will be of assistance."

Spray calendars published in the "American Fruit Grower Magazine," give the following directions for Pear thrips on Pears, Plums and Prunes:—
"Spray with (1) miscible oil 3 gal., nicotine sulphate 1 pint, water to make 100 gal.; or (2) highly refined lubricating oil emulsion, 4 gal. for Pears, 2 gal. for Plums and Prunes,

water 100 gals.; or dust with nicodust. Repeat applications as necessary." The time of application is given as "cluster bud spray; when buds begin to separate but before they open."

For citrus thrips, they recommend "lime-sulphur 2 gal., nicotine sulphate $\frac{1}{2}$ pint, water to make 100 gal.; or highly refined lubricating oil emulsion. Two or more applications may be necessary." Special treatment for citrus fruits recommended when 25 or more thrips to the blossom are found, recommends lime-sulphur $2\frac{1}{2}$ gal., nicotine sulphate 1 pint, water to make 100 gal.; spray when about one-half the petals have fallen.

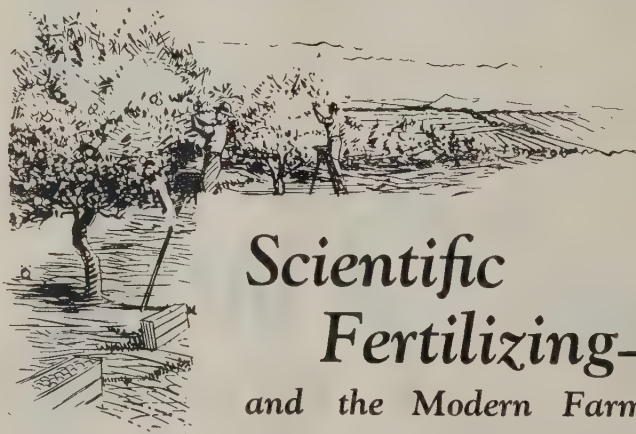
The foregoing applies to Southern California. For Northern California, the following is recommended for Pears, Cherries, Plums and Prunes:—
"Spray with distillate emulsion 5 gal., nicotine sulphate $\frac{1}{2}$ pint, water to make 100 gal.; or dust repeatedly with 5% nicodust. Time of application, as soon as black thrips appear in blossom buds; again if necessary. Winter cover crop if not plowed under too early, thought to keep thrips in ground until after blossoming season."

For New York State the following is recommended for thrips on Pears:—
"Miscible oil 5 gal., nicotine sulphate 1 pint, water to make 100 gal. Apply when dormant, early in the spring when the adult thrips first appear on the buds, just as the bud scales begin to separate."

FRUIT CASE SHOOKS ON RAILWAYS.

Following recommendations from the recent Interstate Citrus Conference in Melbourne, the Secretary of the V.C.C.A. has received advice from the Victorian Railways that it has been decided to provide tarpaulins free of charge to cover seasoned and partially dressed hardwood fruit cases in shooks.

It has also been decided that sawn hardwood timber cut to approved sizes for case-making when seasoned or partially dressed and seasoned will be carried as Class "M" subject to truckload minimums of $8\frac{1}{2}$ tons for 10, 11 or 12-ton trucks, and $14\frac{1}{2}$ tons for 16 or 20-ton trucks. The existing tonnage minimums for unseasoned timber remain the same.



Scientific Fertilizing— and the Modern Farmer

That's the title of a booklet which describes the wonderful new highly concentrated Complete Fertilizer which accomplished such astounding results for so many Fruit Growers last season.

Letters from orchardists who used it last year, are coming to hand, not only telling us it is the best Fertilizer they have ever used, but assuring us of all their future business.

VICTOR PLANT FOOD

That's the name of the wonder working Fertilizer which can have so much to do with your future Fruit Growing Success.

There is a free copy of this booklet available for you. Write for your copy to-day. Find out how Science can contribute to Your Success. Learn why, by using Victor Plant Food, you are assured of better, bigger crops—and at the same time, conserve precious time—eliminate wasteful cartage—and save costly, unnecessary labour. Ask for Booklet "F." Better do it now—right away, whilst the thought is before you.

VICTOR PLANT FOOD & GARDENING Co. Pty. Ltd.
136 Dandenong Road, Caulfield
(Works at Dandenong)

- LEMONS -

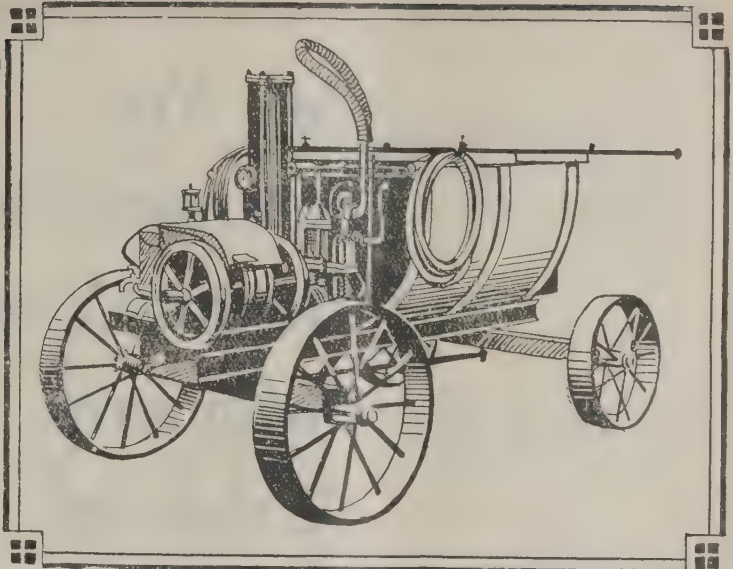
We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vc.

*Satisfaction and
Success with a*
**SIX - O - FOUR
[604]
MOTOR
SPRAYER**

It scores because of its marked improvements over all other Sprayers.

Free Catalogue Sets out All
Details



which include the only Simple Accessible Outside Valves—no chance of corrosion—examination requires only a few minutes.

The 604 Pressure Regulator is unique—it saves wear and tear, and ensures economy in fuel. Engine is relieved of all strain.

Standardised Parts make for easy and economical replacements.

Porcelain Lined Cylinders resist action of chemicals.

Power supplied by 2 h.p. Petrol Engine, which is economical in operation.

WRITE FOR SPRAYING BOOKLET

A treatise on correct spraying methods—it deals with pests, diseases and remedies—written by an expert. Send for a copy now. Spray the Right Way—Get advice from

A. H. McDONALD & Co. Pty. Ltd.

Showrooms and Works—570-4 Bridge Road, **RICHMOND**.
N.S.W. Address—25 Clarence Street, **SYDNEY**.
S.A. Address—134 Waymouth Street, **Adelaide**. (W. McF.)

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

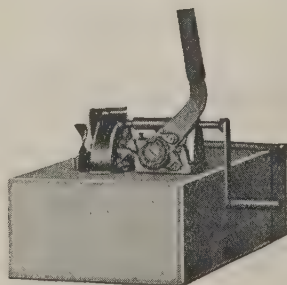
Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

Are You
Interested in
Having Your
Shipments
Arrive in
Good
Condition

?



For Full Particulars Address

Gerrard Wire Tying Machines Co. Pty. Ltd.

FACTORY & HEAD OFFICE :

119-125 Hawke Street, West Melbourne

also

Reiby Chambers, Reiby Lane, SYDNEY, (N.S.W.)
Cr. Eagle & Charlotte Streets, BRISBANE, (Q'LAND)
Pirie Chambers, Pirie Street, ADELAIDE, (S.A.)
Southern Cross Chambers, Howard Street, PERTH, (W.A.)
Cr. Davey & Murray Street, HOBART, (TAS.)
68-70 Taranaki Street, WELLINGTON, (N.Z.)

Potash—and—Prosper!

Muriate



Sulphate

Are you wisely investing your money in fertilisers—
or “just writing cheques for manure?”

FRUIT TREES MUST HAVE POTASH
and they must have it in sufficient quantity or else
their owner may be “just writing cheques.”

You do not spray “by the acre”—you treat each tree
to a sufficient dose.

And that applies to Potash also

*We will gladly answer enquiries as to the uses of potash
here or in other fruit-growing countries of the world.*

Particulars and Prices, From

Dalgety & Company Limited

Bourke Street, Melbourne

It Pays to use this Sprayer . . .

BECAUSE :

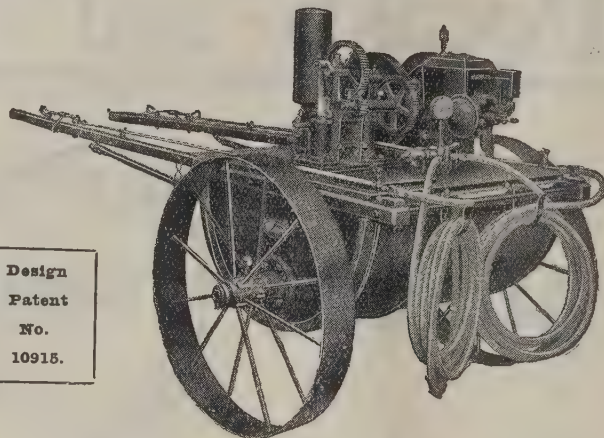
- It finishes the job more quickly.
- Enables better work to be done.
- Is Simple.
- Will not capsize.
- Perfectly balanced—it is light on the horse.
- Always Ready for the work.

Send for particulars of

Cooper

"PERFECT BALANCE"

The Best Sprayer Made



Design
Patent
No.
10915.

Cooper Engineering Co. Ltd.

350-358 SPENCER ST., MELBOURNE
129-131 SUSSEX STREET, SYDNEY

Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

To Conquer Plant Pests

The Most Comprehensive

FRUITGROWERS' AND GARDENERS' CHART Issued in the Southern Hemisphere

This most Valuable Chart contains full details for the control of all Insect Pests and Fungus Diseases and Plants or Trees attacked.

56 Colored Illustrations of Insect Pests and Fungus Diseases in all stages, with description and treatment.

Also formulae for Burgundy and Bordeaux Mixtures, Lime-Sulphur, Nicotine, Red Oil, etc., and other useful information.

Colored Illustrations of Insect Eating Birds.

Send your order now to the

FRUIT WORLD Pty. Ltd., Bank House, Bank Place, Melb.

Price, 21/- Post Free

Effective Spraying means Better Crops and Bigger Profits

You can have the same results as thousands of other growers by using

The BAVE-U (Pioneer Australian) POWER SPRAYER

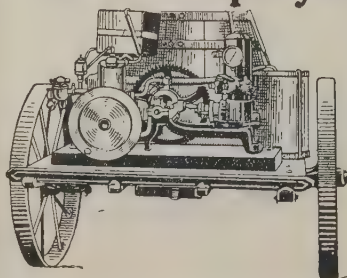
All BAVE-U SPRAYERS are fitted with our Patent Suction Pipe Strainer, which saves the time that is wasted through having to clean choked nozzles

Declared by a number of users to be worth its weight in gold

Write for Catalogue to the Makers:—

RUSSELL & CO. BOX HILL, MELBOURNE
VICTORIA
ENGINEERS

AGENTS:—SOUTH AUSTRALIA—PREMIER MACHINERY CO., Morphett St.
Adelaide. NEW SOUTH WALES—E. ROBINSON, 333 George St., Sydney



Made in Single and Double Plunges
3 and 4 horse power

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

*Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented.)*

Atomol Dusts Ltd.

Manufacturers of

DUSTING MATERIAL USED AS INSECTICIDES & FUNGICIDES
ON PLANT LIFE.

DUMPHRIES PLACE
off GILLES STREET
ADELAIDE

Growers would be well advised to allot part of their orchards this coming season for the purpose of making a comparison between dusting and spraying. Providing that the correct dust and dusting mechanical appliances are used, we are convinced that dusting will be generally adopted for controlling all insect and fungi pests. Atomol dusting material and Root mechanical dusting appliances combine all the essential features of successful dusting. One man with a Root Hand Dust-Gun, costing only a few pounds, will cover as much ground as a power spraying machine costing £100 or over in a given time.

SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED INTERSTATE AGENTS:—

VICTORIA:—

Irymple Packing Co., Irymple.
Irymple Packing Co., Merbein.
Sarnia Packing Co., Mildura.

Humphreys & Conran, Red
Cliffs.

Mr. G. W. Hall, Box 1, Bunyip.

QUEENSLAND:—

Orchard Supply Agency, Mary-
land St., Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington St., Perth.

TASMANIA:—

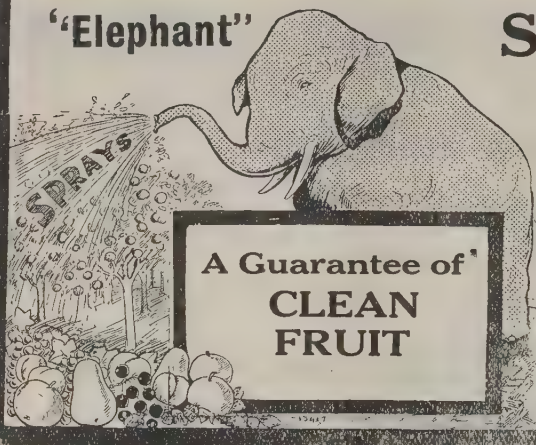
Charles Davis Ltd., 60 Eliza-
beth St., Hobart.

NEW ZEALAND:—

Harold Lightband Ltd.,
79a Lichfield St., Christ-
church.

THE ROOT HAND DUST GUN IS AN IDEAL MACHINE FOR THE APPLICATION OF
CALCIUM CYANIDE OR CYANGAS.



"Elephant"

STILL ON TOP!!

ORCHARDISTS

Spraying is essential and your best Insurance—Therefore it is necessary to use only the Best Sprays obtainable.

The successful grower uses

"Elephant" Brand Sprays

ONLY

Now is the time to spray your Fruit Trees with Oil

Use "Elephant" Brand

Prepared Red Oil

Prepared Crude Oil

FOR BEST RESULTS

Also Order Now

Bordeaux Mixture Powder

Lime Sulphur

Bluestone

Arsenate of Lead (Paste and Powder)

WRITE FOR PRICES AND PAMPHLET

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

INTERSTATE AGENTS:

Agents: Seedsmen, &c.

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR AUGUST

Illustrations.

- "Black Spot" Apple-Spraying Experiments 306

Subjects.

- Answers to Correspondents 322
Banana Borer Beetle Reward 329
Beekeeping Notes 336
Canning Fruits: Pineapples in Hawaii; Ardmora Cannery; Kyabram to Can Tomatoes 307-308
Census of Fruit Trees of Victoria 320
Citrus: Fundamental Principles of Citrus Growing; Drainage of Citrus Lands; California Orange Crop Estimate; Marketing Frost damaged Citrus Fruits 311-313
Dried Fruits: Ex-Soldier Vinegrowers; California Dried Fruits Industry; Swab for Black Spot; Grape Thrips Control; Dried Fruits Prices 316-317
"Eat More Fruit" Campaign xv
Editorial: California's Fruit Industry 303
Fresh Fruit Export Control 304
Fighting Insect Pests in the

- Orchard 330
Imperial Fruit Show 306
Letters to the Editor: Duty on Crude Oil; Orchard Tax 332
Markets: British and Australasian 328-329
New South Wales: Forthcoming Annual Conference; Development of Griffith; Planting Committee's Recommendations 305
Personal 330
Planting the New Orchard 326
Poultry Notes 335
Queensland: Orchard Notes for August; District News and Notes 314-315
South Africa's Fruit 325
South Australian Notes 330
Spraying for Black Spot in Apples 306
Subscribers' Payments Received 331
Tasmania: State Fruit Advisory Board; Apple and Pear Shipments; Orchard Work for August; News and Notes 318-319
The "Brown Heart" Apple Case 327
Victoria: Fruit Council and the Orchard Tax; Cool Stores Conference; News and Notes 309-310

- Western Australia: Seasonal Work in the Orchard; Trapping Fruit Flies; Record Export Season; W.A. Wines 321-322
Windbreaks Protect Crops xvi.

NOTES IN BRIEF.

Valuable information in regard to spraying, manuring, and cultural practices is given by experienced growers in the sections devoted to the different States.

Interesting figures in regard to the increase of fruit production as the result of placing colonies of bees in the orchard, are given in our Beekeeping Notes.

Late spring frosts have done considerable damage to orchards in both England and America, soft fruits in particular suffering. It is stated that the Apple and Pear crops will not be appreciably affected.

Authentic figures regarding the importation of Tomato pulp show that the quantity imported last year was 936 tons, 5 per cent. of the Australian consumption of pulp Tomatoes for a year.

Kiewa Valley Orchards Proprietary Limited

The Famous Fertile Kiewa Valley—A RARE OPPORTUNITY

372 ACRES with Splendid River Flats, and Three-quarters Mile Frontage to the Kiewa River, adjoining Kiewa Township.

- 4 Miles from Huon Railway Station.
- 13 Miles from Wodonga Railway Station.
- 17 Miles from Albury Railway Station.

272 ACRES of rich River Flats and good upland.

100 ACRES making one of the Finest Orchards in Australia—40 acres in Apples, and balance in Plums, Pears, &c.

MANAGER'S COTTAGE, Men's Huts, Stables, Barns, Cool Store, and other improvements.

RAINFALL.—30 inches per annum. Never-failing Springs supply home and stables and garden; three big Reservoirs.

Splendid Dairying and Pig Farming proposition; good milking shed, etc., and well-laid-out piggeries. Tobacco-growing areas and two concrete tobacco-curing kilns almost completed for use. Well-equipped working plant, horses, cows, pigs, and everything necessary for a GOING CONCERN.

Owing to the death of the Manager (the late Mr. J. M. Rutland), TENDERS are invited for any of the following:—

1. (a) Purchase of the property, stock, and working plant as a going concern.
- (b) Purchase of the property exclusive of stock and plant.

Further Particulars Obtainable from—

As Agents for **Messrs. NEILSON & NEILSON, Geelong**

- (c) Purchase of orchard, nurseries, and working plant therefor, including cool stores—total area of about 150 acres.
- (d) Purchase of orchard and nurseries without working plant.
- (e) Purchase of river flats and uplands, exclusive of area in (c) and (d), with dairy herd, pigs, and working plant therefor.
- (f) Purchase of river flats and uplands as in (e), without stock and plant.
2. (a) Lease of the property as a going concern.
- (b) Lease of the land without stock and plant.
- (c) Lease of orchards, nurseries, and working plant.
- (d) Lease of orchards and nurseries without working plant.
- (e) Lease of river flats and uplands, exclusive of area in 1 (c).

N.B.—Option of Purchase can be asked for and given to approved tenderer.

Title is perfect—Certificate.

Inspection of property and plant will be given by appointment. Telephone or wire, or write to the Manager, Kiewa Valley Orchards Pty. Ltd., Santa Rosa, Kiewa (Victoria).

Any bona fide estate or stock and station agent introducing buyers or tenants and lodging tender accepted by the company will be paid the usual commission on such sale or tenancy.

Remember!

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the **BEST**, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States, as set out below.

Changes of copy for advertisements, must be in our hands on or before the 17th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

VICTORIA — Bank House, Bank Place off 410 Collins Street, Melbourne.

South Australia: W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide.
Tasmania: Saunders & Co., Murray Street, Hobart. **Western Australia:** D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth.
Queensland: Gordon & Gotch Ltd., Queen Street, Brisbane. **New Zealand:** Gordon & Gotch Ltd., Wellington, Dunedin and Auckland. **Great Britain:** Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

R. E. BOARDMAN, A.F.I.A., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

FRESH FRUIT EXPORT CONTROL.

Opposition by Harcourt Fruitgrowers.

A fully attended meeting of the Harcourt Fruitgrowers' Progress Association Ltd., the members of which organization, it is claimed, produce approximately 75 per cent. of the Apples and Pears grown in the Harcourt district, was held on July 18, when the following resolution was carried:—

"That this meeting of the Harcourt Fruitgrowers' Progress Association Ltd. is opposed to the principles and provisions of the Fresh Fruit Overseas Marketing Act, and recommends growers to vote against the operation of the measure, when the prescribed poll is taken on the subject."

After discussion, it was further decided, "That this meeting is opposed to an orchard tax as at present suggested, but is in favour of legislation to provide for the registration of orchards as a basis for a voters' roll of growers prepared and kept up to date under Government supervision in such manner as may be necessary to secure to orchardists an equitable franchise for the election of their representatives."

Editorial Chats



CALIFORNIA'S FRUIT INDUSTRY.

Helpful Comparisons with Australia.

Scientific Research and Voluntary Co-operation.

San Francisco, May 21.

IT IS A GREAT PLEASURE to be in California. The welcome accorded me has been so warm-hearted and sincere that I find it difficult to adequately express appreciation. Further, there is a ready willingness to give information of every kind. Every question is answered, and useful news is volunteered. That there is a warm friendship in America for Australians there can be no doubt.

Although California and Australia compete in some lines on the British market—particularly in canned fruit and raisins—there is a manifest willingness here to pass on any helpful information. This seems to be the spirit: "The world is a big place, and there is room for all. You supply good quality fruits to your own people and abroad, and that is good advertising for all, including California. If you do badly, that is a poor advertisement for the fruit industry as a whole, and we will suffer. Anything you want to know about us or our methods is at your disposal."

California as a fruit-producing centre leads the world. With 1,900,000 acres devoted to fruit and vines, under ideal conditions as regards soil and climate, and the production of choice fruits of a total farm value of nearly 50,000,000 annually, it is no wonder that the State takes a pride in this industry nor that visitors from all over the world come here as appreciative observers.

These figures refer to the State of California alone. I have yet to see the huge Apple-producing Pacific Coast States of Oregon and Washington before going to British Columbia and the Eastern States.

There is the heartiest co-operation between the growers and the official bodies, such as the Department of Agriculture and the University of California. The research work that is constantly going on in relation to every phase of production is amazing. World-famed scientists are attending to the minutest details in order to improve varieties, increase yields, and secure better pest control.

The University of California is doing the bulk of this splendid research work, and not simply issuing bulletins, but through their horticultural commissioners spreading the latest detailed scientific information among the producers.

I will describe in detail later the whole system under which these horticultural commissioners operate, and how the activities of the Agricultural Department link up.

It has been my pleasure to attend meetings of growers in their own districts, as well as meetings of executive committees where matters of policy and marketing were discussed.

Co-operation is a big force here. Co-operation which is on sound progressive lines. The benefits of co-operation are known by practical experience—also its limitations.

There is no attempt to go beyond the legitimate sphere of growers' co-operative organisation, and the benefits derivable from collective bargaining.

I am making patient and diligent enquiries, and I find that on every hand the growers do not favour "compulsory" co-operation or anything in the nature of control boards.

The leaders in the industry, as well as the growers, tell me that they believe anything in this nature would be unconstitutional, and that even if it were legal they would not use the method of compulsion. They will do everything possible to bring the outsider in, but force is not to be thought of.

I think I can summarise the position thus. The growers, through their organisations, receive definite benefit. They select good executive officers and pay them well. The large quantities of fruit which thus come under the voluntary control of their organisations make it possible for executives to operate with confidence. Growers are given accurate information as to crops, plantings, prices, and matters of far-sighted policy can be decided on because of the accurate knowledge possessed. It is all to the benefit of the grower to join the organisation. If he stays out, well, that is his loss, for the time being, at any rate, for experience has shown that by efficient businesslike management confidence has been won so that membership steadily grows.

Here is another aspect—and this was put to me by a prominent leader in the Citrus industry. Anything in the nature of compulsion through Act of Parliament would of necessity bring politics into the picture, and politics and business should be strictly kept separate.

California believes in the doctrine of voluntary co-operation, and the gospel of self-help.

The Californian Pear Growers' Association is doing good work. One big activity is that of canning, and the Association by collective bargaining with the canners has stabilised prices.

There is a mistaken idea in Australia that California has so suffered with the Pear Blight that pear-growing is precarious and is declining. The Pear Blight, in the main growing centres at least, is under control. The area under Pears is 100,000 acres, of which 55,000 acres are in bearing, producing 216,000 tons, and 45,000 acres have yet to come into bearing. So there are problems yet to be worked out for caring for the increasing tonnages in the matter of canning and supplying the fresh fruit market. With regard to Peaches, the peak of growers' supplies has not yet been reached.

California is the principal fruit canning State in America. In 1926 the total pack of canned fruit was 20,984,700 cases (two doz. cans per case), as compared with 15,631,852 in 1925. The principal fruit canned is the clingstone peach, of which 13,654,758 cases were canned in 1926, as compared with 9,258,587 in 1925.

As I write the 1927 crop is developing. All varieties of Peaches will run lighter this year as compared with 1926, when the heaviest crop in history was harvested. But to offset the lighter yield, a considerable new acreage has come into bearing, mostly clingstone varieties.

If growers or their associations have any matters they would like me to look into I shall be pleased to do so. Letters should be sent in promptly, as I am moving about from place to place. Letters sent c/o the "Fruit World," Bank Place, Melbourne, will reach me.

Further information follows at an early opportunity.

—R. E. Boardman.

SCIENCE AND ORGANISATION IN CALIFORNIA.

(By R. E. Boardman, A.A.I.S.)

Riverside, Cal., June 4.

I AM WRITING this letter from the famous city of Riverside, Southern California. The original Navel Orange tree from Bahia, Brazil, is still growing here, with an iron fence around it for protection. There is also another Navel Orange tree budded from the original. From these two trees sprang the remarkable Washington Navel Orange industry of California and of the world.

Riverside is also famed because here is conducted the Citrus Experiment Station of the University of California. Splendid work is being accomplished in matters relating to plant breeding, bud selection, control of insect and fungoid pests, fertilization, general orchard practice, and,

(Continued on Page 323)

New South Wales

Forthcoming Annual Conference :: Development of Griffith
Planting Committee's Recommendations

FRUITGROWERS' FEDERATION OF N.S.W.

Annual Conference, August 17.

The first annual general conference of the reorganised Fruitgrowers' Federation of New South Wales will be held at Sydney on August 17, when delegates appointed by the district conferences held during July will attend. Business for the conference will include the selection of Executive, adoption of Constitution, consideration of matters referred from District Conferences, and other matters affecting the industry generally.

The Federation, which is financed by a portion of the Orchard Registration Fee Fund, aims to organise the whole of the fruitgrowers of the State as the first essential in any scheme of betterment. The provisional constitution, which has been approved by the Minister for Agriculture, is comprehensive, and will give every grower a voice in the management of the Federation, among the objectives of which are the following:—

The provision of information regarding improvements and new methods affecting production, instruction, manufacture, transportation and marketing of fruit; that the collective views of growers may be represented through authorized channels, and the Federal and State Governments advised on all matters affecting the industry; to provide a closer bond of unity and co-operation amongst those engaged in production of any kind of fruit; the investigation, testing, and opening up of new markets; organization of marketing and purchase of bulk supplies; study of markets, data regarding marketing prices and costs, disseminating accurate market information, and eliminating waste and unnecessary market expenses; to secure improved methods of storage, handling, and transport, and promote a general policy of testing, standardising, packing and grading; to furnish reliable information regarding suitability of varieties and localities, planting of fresh areas, etc.; promotion of co-operative organizations and enterprises, particularly in respect to the encouragement of legislation to facilitate the financing of such enterprises.

To emphasize the urgent need for better organization to meet the prob-

lems of the industry, the following figures, showing the production of fruit over a five-year period, are of interest:—

	Bushels.	
	1919-20.	1924-5.
Citrus	1,769,038	2,292,062
Apples	524,303	842,329
Pears	165,641	280,144
Peaches	725,296	783,467
Nectarines	29,218	35,191
Plums	120,770	213,237
Prunes	19,651	115,365
Apricots	105,839	169,619
Cherries	51,613	93,417
Bananas	352,266	91,144
All other fruit	130,633	149,571

	Tons.	
Grapes—Table	2,678	3,590
	Cwts.	
Raisins	9,549	25,133
	Galls.	
Wine made	669,468	1,171,264

The number of registered orchards in the State is 16,000, but the number of growers engaged in the growing of fruit for commercial values is estimated at 10,000, while the value of their products on the farm in the year ending June, 1925, is estimated at £1,866,620. The production has increased during the five years shown in the above table by nearly 35 per cent., and a still further increase may be looked for owing to the large proportion of young trees.

The population of the Commonwealth during the same period shows only about 15 per cent. increase. The percentage of increase in production is enormously in excess of the percentage of increase in population. It is therefore obvious that, unless adequate steps are taken to cope with the increasing production, calamitous results may well ensue. The position can be met by a close organization of the fruit-growers, and in order that the industry shall be stabilised and placed on a firm business footing, it is necessary for growers to face facts squarely and to take carefully into consideration the question of the formation of a progressive policy.

IMPRESSIONS OF NEW SOUTH WALES.

Rice Growing and Citrus Packing.

A recent visitor to our office was Mr. A. O. Pike, of Paradise, near Adelaide, S.A., who has just completed a trip through New South Wales. Mr.

Pike was much impressed with the development of rice-growing on the Murrumbidgee Irrigation Areas. Last season 5,000 tons of rice were produced, and it is expected that the crop this year will total 10,000 tons. Many former dairymen have given up dairying to take on rice growing.

Mr. Pike states that the Murrumbidgee growers can beat the Chinaman at his own game, owing to the use of machinery. The rice is drilled like wheat or oats, and the land is then flooded. A special "header" has been designed and built by Messrs. H. V. McKay Pty. Ltd., which cuts off the heads very effectively. The crop is bagged and sold in this State, all husking, etc., being done at the factories.

Mr. Pike was particularly impressed with fruit-growing conditions at Griffith, especially in regard to the method of pruning adopted. Growers seem to be prospering; about 90 per cent. of the citrus growers are members of the packing house, to which considerable extensions are planned for next year, out of their own funds. Machines are already installed for washing and brushing the Citrus fruits, and next season it is intended to instal machinery which will stamp every fruit with the local brand. Improvements in transport and through fruit trains to Sydney are among developments promised by the Railways Commissioners.

Mr. Pike anticipates that all classes of fresh and canned fruits and tomatoes will be well cleared up this season in most of the States, giving prospects for good marketing conditions next season.

FURTHER PLANTINGS FOR THE M.I.A.

At a meeting of the Planting Committee of the M.I.A., held at Griffith recently, it was decided to recommend further plantings as follows:—

Apples.—Granny Smith, Delicious, Cleopatra (small plantings with Jonathan as polliniser).

Grapes.—Black Shiraz, Grenache, Verdelho, and Rutherglen Pedro; small plantings of Doradillo and Sultana.

Pears.—Limited plantings of canning varieties.

Citrus.—Washington Navel and Valencia Oranges.

Figs.—Limited plantings.

Almonds.—Limited plantings of Hatch's Nonpareil, Large Paper Shell, Early Paper Shell and Peerless.

No further plantings of Apricots, Prunes, and intermediate Canning Peaches.

FRESH FRUITS OVERSEAS MARKETING.

Poll and Election of Board.

September 28, 1927.

The Minister for Markets and Migration (Hon. T. Paterson), has announced that the poll to decide whether the Fresh Fruits Overseas Marketing Act shall be brought into operation, and the election of representatives to the Fresh Fruits Overseas Marketing Board will be held on September 28 next. The Act provides that two representatives shall be elected to the Board by Apple and Pear growers of Tasmania, and one representative by growers in each of the mainland States, with the exception of Queensland, which State does not yet export Apples and Pears. The interests of this State will be looked after by the New South Wales representative.

Nominations of candidates for election to the Fresh Fruits Overseas Marketing Board are now being called for, and should be lodged with the Returning Officer, Department of Markets and Migration, not later than August 24, 1927. Forms of nomination may be obtained on application to the Returning Officer.

Claims for enrolment for the purposes of the poll and the election have been posted by the Department to growers who, according to information furnished by Export Merchants and others, are entitled to vote in view of the fact that they are occupiers of orchards from which not less than the prescribed quantity of Apples and/or Pears, i.e., 100 bushel cases, were exported from Australia during either of the years ended June 30, 1926, or June 30, 1927. The closing date for lodgment of the claims with the Department of Markets and Migration is August 24, 1927.

Any grower who is eligible to exercise a vote at the poll or the election, and has not received a claim for enrolment, may obtain one on application to the Returning Officer or from the Fruitgrowers' Associations in the various States.

In view of the importance of this question to the Australian fruit export industry, every grower who is eligible should make immediate application for enrolment, and should without fail exercise his vote on September 28.

Under the Wine Bounty Export Act, the price paid for Doradillo Grapes for wine-making this year is fixed at £6/10/- per ton, and for other varieties, £10/10/-.

FRESH FRUIT EXPORT CONTROL.

Growers, take note!

This vital issue will be decided on September 28 next.

100 cases exported during 1926 or 1927 qualifies the owner or the occupier of the orchard from which such export was made to one vote.

If you are eligible and have not received enrolment card, apply to your Association, or if no Association, direct to Markets and Migration Department.

Enrolment cards must be returned before 24th August, 1927.

FRUIT EXPORT CONTROL.

(To the Editor.)

Dear Sir,—The last act of the Federal Ministry in Melbourne being to rush through the Fresh Fruit Export Control Bill under the title of "The Fresh Fruits Overseas Marketing Act 1927," and as a poll is to be taken amongst growers to decide whether the Act shall become operative or otherwise, and also as reference has been made on different occasions to South Africa having a Control Board, a few facts as to how the Fruit Control Board functions in South Africa and London should be interesting to the fruit-growers of Australia.

The Board in South Africa is composed of a lawyer Chairman (£1,800 per annum), a shipping officer (£1,200 per annum), and four members (three growers and a shipper of oranges) each getting ostensibly £400 per annum, but the whole outfit costing nearly £20,000 per annum. A Fruit Exchange (composed of about forty companies) costs the grower another £10,000—the £30,000 being raised by a levy of 5/- per cubic ton on all fruit exported. In addition to having to pay a levy of 5/- per cubic ton for the upkeep of these departments, the grower is further mulcted to the extent of 20/- per cubic ton for the equalisation of freight. Equalisation of freight does not concern the Australian fruitgrower, rates of freight nowadays being uniform here; but the Australian grower will be interested to learn that, after being charged 20/- per ton for equalisation, the South African grower was this year given a rebate of 10/8 per ton on last year's Citrus shipments. We are informed that no balance sheet or statement of affairs has been published, and neither has any explanation been made to the growers or anybody else as to how the other 9/4 per ton was disposed of.

The Control Board arranges shipment against growers' estimates, but the facts are that only because South Africa has the finest Pre-cooling Station in the world (to use in this case as a bank-up store), growers have this year been saved from the biggest disaster in South African fruit exporting.

The experience of overseas representation, so far as South Africa is concerned, is that it has affected nothing, any so-called benefits supposed to be derived being purely imaginary. Those in a position to know affirm without the slightest hesitation that no advantages whatsoever accrue to the grower from the Fruit Control Board or the Fruit Exchange; on the other hand growers have to pay very dearly for the services rendered.

As showing what can occur when Boards or semi-Government bodies handle account sales, instances can be cited where fruit sold in London in May, 1926, and cheque for nett proceeds forwarded to the Bank in London the day following the sale, account sales were not received by the growers till well into September—four months after fruit was sold. On enquiries being made it was ascertained that the Board's staff did not make out the official account sales, but had employed a firm of accountants to do this work for them.—Yours faithfully,

PARNHAM PTY. LTD.,

CHAS. J. PARNHAM,

Managing Director.

Victorian Representatives of the "White" Service, 31 Queen-street, Melbourne, July 12, 1927.

Orchard Tax.—The Victorian Government has decided to introduce a Bill for an Orchard Tax, a poll of growers to be taken subsequently to decide if the Act shall become operative.

IMPERIAL FRUIT SHOW.

Special Sections for Empire Canned Fruits and Citrus.

ARRANGEMENTS are well in hand for the Imperial Fruit Show, to be held at Belle Vue Gardens, Manchester, England, from October 28 to November 5 next. Some alterations have been made in the schedule for this year, which now includes two new classes for Citrus Fruits from the British Empire—one for Grape Fruit and one for Lemons, while the classes for Canned Fruit have been increased from 5 to 15.

The British Empire Section is open to bona-fide commercial fruitgrowers, packing stations, or associations of growers in any part of the British Empire, provided that all the fruit exhibited by an Association has been grown by its members. Fruit exhibited must have been grown and packed by exhibitors. In Citrus Fruits the classes consist of Navel Oranges, Late Valencias, any other market variety of Orange, Grape Fruit, and Lemons, as well as new packages. A Silver Challenge Cup, presented by Messrs. White & Son Ltd., Hull, will be awarded for the best exhibit of Oranges.

The Canned Fruit Competition is open to anyone engaged in canning in any part of the British Empire, but all fruit shown must have been grown and canned in the British Empire. The classes include Apples, Pears, Plums, Peaches, Apricots, Pineapples, Berry Fruits, Currants, Cape Gooseberries, Grape Fruit, etc.

Full particulars, regulations and instructions to exhibitors are included in the schedule, copies of which (with entry form) may be obtained free on application to "The Fruit World," Bank House, Bank Place, Melbourne. Australasian entries close at the Fruit World Office on September 6, 1927.

SPRAYING FOR BLACK SPOT.

Effect on the Yield.

Mr. T. H. Grant, the well-known Apple grower of Beaconsfield, Vic., writes:—I am forwarding two photos. of Yates Apple trees, sprayed and unsprayed, which may be of interest. These trees are in one continuous row which was sprayed for Black Spot half-way along, the other half left unsprayed. The spraying was done on September 10, once only, just as the buds were bursting, with lime and bluestone, and although the season was one of the worst on record for Black Spot—as the unsprayed trees



A "Black Spot" Spraying Experiment: Section of Row of Yates Apple Trees at Pakenham, Vic., Sprayed Once.



Section of the Same Row Unsprayed; One Tree Intervening. (See Letterpress Herewith.)

—Photos. by Courtesy Mr. T. H. Grant.

indicate—the crop of fruit averaged 4½ cases 97 per cent. clean. The unsprayed trees gave less than 4lb., all spotty. We attribute the good re-

sults to early spraying, careful preparation, and thorough work, but to avoid any risks we would advise a second spraying two weeks later.

Canning Fruits Industry.

PINEAPPLES IN HAWAII.

Mass Production: Specialisation in Processing and Marketing.

9,000,000 Cases of Canned Pineapples Produced in 1926.

(By R. E. Boardman, Editor "Fruit World.")

THE TWO LARGEST INDUSTRIES in Hawaii are sugar and Pineapples. The former had a yield of sugar in the last financial year of 787,000 tons, and an export trade in unrefined sugar valued at about \$14,000,000.

The Pineapple pack in 1926 reached the record figure of nearly 9,000,000 cases of 24 cans each—a 50 per cent. increase in five years. The export trade is worth over \$6,000,000 annually.

It is of interest and value to note the comparisons and points of difference in respect of the Australian and Hawaiian Pineapple industries.

There are several islands in the Hawaiian group. Pineapples are grown principally on the islands of Oahu (on which Honolulu, the capital, is situated), Manai, Kania, Lanii and Hawaii: the last mentioned is the largest island of all.

The island of Lanii is practically owned by the Hawaiian Pineapple Corporation, a company having a capital of £2,000,000, and paying good dividends on its shares. There are several other large companies operating.

The history

of the Hawaiian Pineapple industry is nothing short of a romance. Only fifteen years ago the Pineapple canning industry in these islands was in its infancy. To-day it is the commanding figure in the world's markets.

This has been brought about by skilled specialisation in every branch of the industry, from the growing of the fruit to the fine points of processing, coupled with business acumen in every phase of marketing.

The present leaders of the industry are those who originally had faith in their ideals for large development, in order to win the confidence of the investing public. Their faith has been amply rewarded.

To-day in Honolulu stands the

largest individual fruit cannery

in the world, covering, as it does, thirty-three acres; there are also fourteen other Pineapple canneries of large dimensions. Most of these are members of the Hawaiian Pineapple Canners' Association.

Experiments are being consistently conducted to produce new varieties, but so far reliance is placed on the Smooth Cayenne variety, the stocks of which were originally introduced from Australia, though Australia, in turn, had previously received the variety from England.

The division of land in Hawaii between sugar cane and Pineapples is largely determined by irrigation possibilities. The sugar cane areas are all irrigated, but the uplands and foothills, where irrigation would be too expensive, are devoted to Pineapples, as the ordinary rainfall is sufficient for growth.

Hawaii has this in its favor—the land is uniformly good, so that one may go through miles of Pineapple fields, the hillsides and wide expanses of tablelands presenting a pleasing appearance of trim thrifty plants.

This brings with it all the advantages of concentration in enterprise, mass production, uniform deliveries with a minimum of labor, elimination of wastage, and efficiency

in administration.

The general policy of the Pineapple industry has to be carefully watched, as this delicious canned fruit is for ever in competition with the other canned fruits of the mainland; thus the endeavor is always to produce the best quality article at the lowest possible price, to ensure a maximum consumption and a favored place in the general field of canned fruits.

Methods of Cultivation.

Before planting the Pineapples the ground is ploughed, then disced, later the surface soil is cultivated to break up the clods, and to bring it to the right tilth for planting: then furrows are ploughed out at intervals to provide surface drainage.

The system of mulching is of very great interest and importance to Australians. The idea is to retain moisture, produce better quality fruit, and to kill weeds. The mulch is made of asphalt-treated paper, made from waste mags from the sugar mills. This paper mulching is spread over the ground in regular rows, i.e., over the land intended for planting, leaving, of course, the space necessary for cultivating. This mulching process was discovered by Mr. C. F. Eckart, a noted agricultural expert of Hawaii. So successful has this method proved after years of experience, that its use has been universally adopted in the islands. The cost of the process is recovered many times over in the saving of labor and increased crops.

The planting of new fields

is carried on by using slips, suckers and crowns from the top of the fruit, with preference for the suckers, though the other methods are used extensively.

Seasoned plants are set in double rows at a depth of one to two inches in the soil, through holes punched in the paper. In a few weeks roots are formed, and the young plants commence to throw up new leaves.

The plants mature in twelve to fifteen months, at which time flower heads appear: these wither, and the Pineapple crowns develop. Very rarely do seeds form within the fruit—only when fertilisation has taken place.

Then from five to six months from the appearance of the flower heads, the fruit matures, and is ready for harvesting.

The Crops.

Most of the fruit ripens in July and August (January and February in Queensland), but there is, in addition, a smaller winter crop in December and January (June and July in Queensland). Thus within eighteen to twenty months from planting, the first crop is ready for harvesting. Usually this first crop is of good quality, large-sized fruit, but is not equal in tonnage to the second main crop, which comes a year later.

The second crop, and those succeeding, yield larger numbers of Pineapples than the first crop, there being at least two fruits to each plant. After the first fruit is removed from a Pineapple plant, the lateral resting buds commence growing into new shoots. For propagation purposes, most of these shoots are removed.

At least two are left, however: these grow into a larger plant than the first-year plant, and each of the shoots may produce a fruit. There being twice as many stalks, the second crop should be larger than the first.

Canneries Work All the Year.

Apart from the main crop, Pineapples ripen in small quantities throughout the year. With the very large areas under the control of the packing corporations, it is possible to secure sufficient Pines for the canning factories to open, say, once a week during the "off" season, to keep the main staff together, and to steadily augment the available supply of canned fruit.

For instance, during the Pan-Pacific Conference at

Honolulu in early April (corresponding to October in Queensland), the Hawaiian Company's cannery (the largest in the world) was thrown open to the delegates, and the actual operations were seen in full swing. Delegates from various parts of the world, and particularly those from Australia, were keenly interested. The co-operation of the Railway Corporation (a public company) enables the fruit to be promptly delivered from the fields to the canneries in Honolulu.

In harvesting, a big responsibility rests upon the field superintendent, under whose authority the picking is done. At a certain stage the sugars and flavors of the Pineapples are at their best, and it is just then when the fruit must be gathered. If picked too soon, the flavor is inferior; if too ripe, fermentation is set up.

The quantity daily for the cannery is known by the field superintendent, so constant supervision is necessary to secure both the quantity and the quality of the fruit for loading on to the waiting railway trucks for delivery to the canneries.

It may be mentioned that the efficiency of the operations is seen in that the railway lines extend right into the factories, and the fruit goes straight into the canneries with a minimum of handling.

In the actual work of harvesting, each laborer carries a sack over his shoulder: passing between two rows he stoops down and breaks off the stem of the selected fruit, and places it in his sack. The bagful is carried to the nearest roadway, where crowns are removed, and the fruit is placed in crates ready to be hauled by motor trucks to the nearest railway station. On arrival at the cannery the fruit is graded, and sent to the machines operating on the particular sizes.

Field research work

is being constantly conducted, soil surveys are made, and manure is supplied according to the particular needs of defined areas. Specialists are ever at work to bring about improvements in every phase of production, processing and marketing.

ARDMONA CANNERY.

At the very beginning of its career, the Ardmona Cannery has established a splendid reputation, and its product commands 1/- a dozen above California prices on the London market, according to a statement by the Chairman of Directors (Mr. V. McNab) at the half-yearly meeting. The cannery would shortly be in a still better position to export, as the contemplated improvements and larger pack assured would enable a reduction of packing costs by another 6d. a dozen.

Last season, the second of the cannery, 4,590,768 cans of fruit were processed, against 3,297,600 cans in the first year.

For canning purposes, 3539 tons of fruit were supplied to the cannery last season, and for drying or pulping 1021 tons, the total being 1484 tons more than in the previous year.

Mr. McNab stated that in January the cannery would take canning tomatoes at £11/10/- a ton, and tomatoes for pulping at £7/10/- a ton.

No price had been fixed for canning

fruit. The whole of the dried and pulped fruits treated had been sold.

Very material increases had taken place in sales of canned fruit in Australia and N.Z., and the Company's first-year sales would be more than doubled this year. The outlook for export was not encouraging, and further Government aid was essential.

AMERICAN CANNERS.

Reduction of Output Urged.

In an address before the Western Canners' Association's Convention at Chicago in April, says the "California Fruit News," Assistant Secretary of Agriculture, R. W. Dunlap, concluded a lengthy paper to the canners on their relationship to agriculture and the problems of present large productions with the following sentence: "In my opinion your duty is to face your problem with a realisation that unless you unite for a reduction of your output the solution of your problem is doubtful, and the canning industry will project to an even more distant future the final prosperity so necessary for the well-being of your industry."

Hawaii, unfortunately, has the fruit fly, though it is of interest to note that it is moderately under control by a parasite discovered in Australia—*Dacus Tryonii*. This parasite is about 50 per cent. effective. The genial climate all the year round, and the absence of frost give a long opportunity for the parasite to work, which it does, instead of hibernating as when frosts come in Queensland.

However, Pineapples are free of the fruit fly, although most other fruits are affected; those which are a host to the fly are not permitted to enter the mainland of U.S.A. from Hawaii. This does not apply to the fresh Pineapples.

Pineapples are grown on several of the islands of the Hawaiian group, and in consequence, facilities have to be provided for railling the Pines to the coast and transferring them by steamer to Honolulu, where the canneries are situated.

Summed up,

it may be said that **organised production, scientific investigation and skilled management** have put Hawaii permanently on the way in regard to canned Pineapples. The Territorial Board of Agriculture—corresponding to the Department of Agriculture in Queensland—is ever at the service of the industry on the science side, and no expense is spared to render the best service possible.

Queensland growers also realise that the Pineapple is mainly a cannery proposition, and that this must take precedence over the fresh fruit market trade.

Apart from the vast areas controlled by the Hawaiian Pineapple packing companies, there are many individual growers on their own holdings who find it profitable to produce Pines which they sell to the factories.

Labor is plentiful—mainly Oriental. Whilst the nominal "wages" may seem low—8/- to 10/- a day—yet the extras provided by the companies in the way of houses, food, etc., bring the actual wage value up to about 16/- a day.

The quality of the Hawaiian canned Pineapple is excellent. The same can be said of the Queensland article. Encouragement may be taken from the fact that the use of canned Pineapples is increasing throughout the world.

KYABRAM TO CAN TOMATOES.

With a view to filling the gap between the end of the Apricot crop and the arrival of the Pullar's Cling Peaches, the Directors of the Kyabram Cannery Co., have made an arrangement with prospective Tomato growers to undertake processing of this crop. It was agreed that between January 8 and March 8 £11/10/- per ton will be paid for canning, and £7/10/- for pulping samples of Tomatoes, it being understood that each grower would supply two-thirds of canning to one-third of the pulping varieties. The cases will be returned. The Directors of the company, Messrs. W. Pratt (Chairman), J. B. Sawers, C. W. Colbert, E. Blackburn, W. F. Cooper and J. Higgs, and the Secretary, Mr. C. P. Crichton, met the growers on most amicable terms, and general satisfaction is expressed regarding the arrangement.

Fancy canned goods can not be made from standard or sub-standard raw materials. Neither can fancy products be derived from fancy grade raw materials by sub-standard factory methods.

Victoria

Fruit Council and the Orchard Tax :: Cool Stores Conference
District Notes and News

VICTORIAN FRUIT CROP REPORT

To End of June, 1927.

The Superintendent of Horticulture reports as follows:—

Deciduous Fruit, &c.

Despite the dry summer, the fruit buds of all classes of deciduous fruit trees, with the exception of Apricots, are well developed, and provided that normal conditions are experienced at blossoming time, a heavy setting of fruit is anticipated.

Apricots carried a heavy crop of fruit last season, and in consequence the older trees and those which did not receive generous treatment suffered. The appearance of the fruiting wood of these trees do not promise well for even a medium crop.

The very heavy frosts recently experienced did not, as expected, do any appreciable injury to the Passion Vines, and these are carrying a nice lot of fruit.

The quantity of fruit held in cool storage is steadily diminishing. As compared with the same time last year, the number of bushels held is as 1 to 5 in the Geelong and Ballarat districts, 1 to 2 in Doncaster and districts, and 1 to 2 in the Somerville district. The Two Bays Co. store held early in the month approximately 15,000 cases, of which 10,000 were imported from Tasmania. This store is filled, almost, to its full capacity.

Viticulture.

The vines are at last "under bare poles"; they have retained their foliage longer than usual this season. Pruning is now in full swing. The wood has ripened under most favourable conditions, and everything augurs well for next year's crop. Vines that have yielded unusual crops cannot be expected to repeat the same effort next vintage, and in some cases a more moderate crop may reasonably be expected.

The 1927 winter is so far a dry one—in strong contrast to its predecessor—4in. have fallen at the Rutherglen Viticultural Station as against an average of 5½ for this period. Early June was remarkable for a succession of unusually severe frosts. In view of these dry conditions, deep ploughing is very desirable, so that the subsoil may be enabled to absorb as much as possible of the rain that may yet fall.

Citrus.

Very severe frosts have occurred during June. On June 13, at many places along the Murray and in the Goulburn Valley, temperatures fell to 12deg. of frost. The effect on the trees shows light to severe burning of foliage, and the effect on the fruit has been to cause a lot to fall.

Mandarins show the worst fall, and a quantity of Navel Oranges on the north-east side of the trees have fallen. The fallen fruit is showing crystallisation and breakdown of the pulp juice, also dry and bitter to the taste. The fruit on the trees is somewhat bitter, but is not showing any internal breakdown.

Specimens of the Oranges on the trees were submitted to the Research Chemist of the Agricultural Department for examination, and his report shows no crystallisation of the pulp. The fruit not being ripe will probably lose any bitter taste as the sugar increases. Growers have consequently been advised to refrain from picking any fruit supposed to be injured.

The Lemon crop in these districts will be materially affected. Mature fruit is showing internal breakdown, and the tender foliage and young fruit have been severely injured. The result of this will be a reduced crop next summer.

FRUIT PRICES ON BARROWS.

Excessive Profits.

The Melbourne City Council is making another attempt to reduce the prices of fruit sold from street barrows. It is stated that the barrows were established for the purpose of assisting growers in marketing their fruit, and to make cheap fruit available to the public. The rentals for these barrows is from 6/- to 30/- a week. An examination by the Markets Committee recently showed that in almost every case the prices charged for fruit on the barrows were equal to those in the shops, notwithstanding the difference in rents.

The turnover was also found to be surprisingly high. To obtain an indication of the rental value of barrows, public tenders were called for the renting of a barrow near the Flinders-street Station. Fifty-one applications for the stand were received, and the rents offered ranged

from £3 a week to £16 a week. One man offered a rental of £13 a week, to be paid three months in advance. The market committee has decided that if the barrows which have so high a rental value are to be made available for not more than 30/- a week the public must get the benefit of cheaper fruit. It has therefore been decided to keep fruit prices on the barrows under supervision, and the retail prices will be compared with the wholesale prices at the market.

VICTORIAN FRUIT COUNCIL.

Request for Orchard Tax.

A meeting of the Victorian Fruit Council was held in Melbourne on July 12, there being present Messrs. J. H. Lang (Chairman), J. W. Bailey and F. Thomas (Apple and Pear Growers), J. M. Mitchell (Metropolitan), J. B. McDonald, W. Young, and C. P. Cornish (Northern Section), and W. H. Carne (Secretary).

Correspondence was received from the Department of Trade and Customs regarding the importation of tomato pulp last season, which it was stated was allowed only to meet the immediate needs of manufacturers owing to partial failure of the Australian crop; the concession was withdrawn before the new Australian crop was ready. It was proposed to place tomatoes under the heading of "fruit" in future, at a higher rate of duty.

Orchard Tax.—It was reported by Mr. Young and Mr. Mitchell that the Northern and Metropolitan Associations had both decided to accept the view of the majority in regard to an acreage tax or production levy, in order to be able to make a unanimous request to the Government. Having agreed to the principle of an acreage tax, it was decided to go into committee at the close of the meeting to discuss the details of the proposed Bill.

Research Station.—Mr. Cornish stated that the Northern Growers had decided to recommend Tatura as the site for the Goulburn Valley Research Station, as being the most central position, and with suitable land available. It was decided to lay the matter before the Minister by deputation.

Mr. Mitchell reported that the Minister had promised the Berry Growers' Association that as soon as students were available, a number would be appointed for outdoor experimental work in orchards, and others for laboratory research work. The principal difficulty was to get qualified men.

Pointing out the need for better or-

ganization throughout the State, it was decided, on the motion of Messrs. McDonald and Young, to ask the V.C.C.A., the Dried Fruits growers, and the Tomato growers to affiliate with the Council.

It was decided, on the motion of Messrs. Lang and McDonald, to thank the Council for Scientific and Industrial Research for appointing a Mycologist (Dr. Dickson, from Canada), and express the hope that the problems of the fruit industry would receive attention from this officer.

Pending the reorganisation of the finances of the industry, Mr. Carne was asked to continue to act as honorary secretary, members referring most appreciatively to his work. Mr. Carne agreed to carry on for the present, and promised to do his best to assist the Council and forward the interests of all sections.

A deputation from the Council, which was received sympathetically by the Minister for Agriculture (Mr. W. Slater) the next day, asked for the establishment of an experimental station at Tatura, and for the introduction of an orchard tax on an acreage basis, with the following provisions:—

That an orchard should mean any place over $\frac{1}{2}$ acre where fruit was produced for marketing, other than dried vine fruit or citrus fruit; every orchard or nursery unless exempted by the Minister, should be registered; fees collected should be paid into a special account at the Treasury and paid out to the bodies representing the growers in zones as follows:—(1) Goulburn Valley, from Seymour to River Murray; (2), Metropolitan area, within 25 miles of the city, with an easterly limit at Dandenong; (3) the rest of the State where deciduous fruits were grown and marketed.

It was suggested also that the registration fees should not exceed 2/- per acre, and should be decided at an annual convention held from year to year.

VICTORIAN COOL STORES CONFERENCE.

Croydon, August 9 and 10.

The annual conference of the Fruit-growers' Cool Stores Association of Victoria will be held at Croydon Hall on Tuesday and Wednesday, August 9 and 10, commencing at 10 a.m. On the opening day the business will include discussions of the advisability of extending the scope of the Association; monthly fruit returns; codlin moth; pre-cooling of fruit for export. Addresses will be delivered by Dr. F. Kidd, of the Cambridge Low Tempera-

ture Research Station, Messrs. R. Werner, G. B. Tindale, B.Ag.Sc., and R. C. Pidgeon. A complimentary luncheon will be tendered to delegates by Croydon, and the following day visits will be paid to orchards and places of local interest, and to the experimental plots used for thrips investigation.

Retiring officers who are eligible for re-election at the annual conference are:—President, Mr. J. Tully, J.P., Doncaster West; Vice-President, Mr. W. Mock, Burwood East; Auditor, Mr. J. W. Barrett, Ringwood; Council Member to Chamber of Agriculture, Lt.-Col. J. H. Lang, V.D., Harcourt; Delegate to Apple and Pear Growers' Association and Metropolitan Section Fruit Council, Mr. J. G. Aird, Ringwood; Secretary and Treasurer, Mr. J. G. Aird.

EXPORT OF PLUMS TO JAVA.

A small shipment of Plums from the Doncaster district (Vic.), was recently sent to Java by the Department of

to 25 is used as late as possible in the dormant period. Better results are obtained when the pests are beginning to move.

Crude oil is also much used at spraying strengths from 1 to 10 to 1 in 20.

When Woolly Aphis is bad, a strong oil spray is used in mid-winter. The Woolly Aphis parasite (*Aphelinus mali*) is doing good work in some orchards, and once properly established, will do an immense amount of good.

Manuring.—The use of the several brands of No. 1 Complete Orchard Manure is general, from 2 to 6 lbs. per tree being applied; also a large amount of potash is now being used with good results. About 2 lbs. per tree is usually applied in old orchards.

Lime is being used increasingly by orchardists, and green manuring is practised by many in old orchards, with good results.

The principal work during August and September is pruning and oil spraying, also getting ready for ploughing, overhauling motor-pumps, implements, etc.

Last season was the worst on record, but prices have been excellent for what fruit there was.

Fruitgrowing is the principal industry in this district, but dairying, pig-raising, and the growing of vegetables are making big strides. The Peninsula is becoming a popular place for young horticulturists from older parts to commence operations.

The fruits mostly grown are:—Apples—Jonathan, Delicious, Democrat, Gravenstein, Reinette, Five Crown, Rome Beauty, Statesman, and Stewart's Seedling; Pears—W.B.C., Broom Park, Packhams, Beurre Capiaumont, Howell, Keiffer, and Winter Cole; Apricots and Plums are considerably grown.—"Orchardist," Hastings, Mornington Peninsula.

PACKING PEARS.

We have received from the Horticultural Division of the Victorian Department of Agriculture a further one of their valuable series of fruit packing charts, entitled, "Packing Pears for To-morrow's Market."

The chart is copiously illustrated with photographs of cases, showing the pack for various sizes and types of pears, method of nailing down, etc., and tables are given showing the packs for Australian dump and "long" bushel cases. These show the packs to adopt to bring the fruit to the correct height in the case. This, and the snugness of the specimens in each layer, are stated to be the important features for the safe carriage of the fruit over long distances.

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

Agriculture, to test export quality, etc. The Plums were packed in stout cardboard boxes, each holding about 7 lbs. Of the six varieties shipped (Grand Duke, President, Golden Drop, Lawford Gage, Blood, and October Purple) Golden Drop and October Purple did not carry well. Lawford Gage and Grand Duke were most successful, opening up in splendid condition.

A small consignment of Emperor and Cornichon Grapes was also satisfactory.

SEASONAL WORK AT HASTINGS.

Spring Spraying.—The principal sprays are—For Black Spot and fungus diseases: Bordeaux Mixture 6-4-50, Lime-Sulphur 2 gallons to 50 of water when buds are showing pink; for Red Spider, Woolly Aphis, and other scale pests: Red Oil at a strength of 1 in 20



Fundamental Principals of Citrus Growing-

(By Redvers J. Blatt, Ph.D., of South Africa and California.)

(Continued from p. 272 July Issue.)

(4). Soil Moisture.

IT IS REMARKABLE how little attention is paid to soil moisture.

Many growers seem to think that this subject means just the application of water—in other words, if it does not rain, irrigate. No thought whatsoever is given to the importance of the optimum moisture content. All plants must have water; some need a great deal of water, e.g., water plants; others, like the desert cacti, need very little. Citrus trees being evergreens, really never become dormant, but need a continuous supply of water.

There are, however, three distinct cycles of growth, viz., spring, summer, and autumn. The aim, therefore, should be to have sufficient moisture for the needs of the trees throughout the year. The optimum content of the different soils has been worked out, and by means of soil samples the moisture content of a soil can be determined. Growers, however, are not equipped for determining the moisture content of their soils, so other methods must be adopted.

By Means of a Soil Auger

samples of soil up to 6ft. can be obtained, and by examination a fair idea of the moisture content of the soil at any particular depth up to 6ft. can be obtained. The following is a good method of finding out whether there is sufficient moisture in a sandy loam soil or not.

Enclose a sample of the soil in the palm of the hand, then open the hand. If the soil crumbles to pieces there is not sufficient moisture in the soil. If the soil does not fall to pieces there is sufficient moisture. One soon learns to distinguish between very

wet, wet, and dry soil, and after a while one becomes familiar with the optimum moisture content of one's soil.

In addition to the use of a soil auger, the condition of the trees is an excellent guide as to the moisture content of the soil. The trees will soon show the effects of too much or too little moisture. In either case the trees will become yellow and sickly. The first sign of lack of water is wilting of the leaves, and water should be applied immediately.

If trees receive no water or too much water for any length of time, they assume a light green appearance, followed by dropping of the leaves. If the matter is not remedied the trees turn yellow. Light green or yellow trees cannot bear good crops, and usually have very little fruit on. Mottling of the leaves, and Chlorosis (yellowing of leaves) are signs that there is something wrong. It is a signal of grief, and is the result of mal-nutrition rather than a specific disease. Where there is a lack of water or too much water, mottling or Chlorosis are common.

Too Much or Too Little.

To distinguish between too much and too little water an examination of the soil and roots is essential. Too much water causes water-logging, the roots turn black, and if the matter is not rectified "Collar Rot" or Gummosis is likely to set in. Where there is a scarcity of water, the ground will be dry, the roots being white and seemingly all right. As long as the roots remain white the tree is healthy, and poor condition then is due to want of water or plant food material, or both.

In heavy soils "Gummosis," a fun-

gus disease, and waterlogging are very common. The latter is practically a drowning of the roots. In South Africa "Collar Rot" is by far the worst fungus disease. It has cost the country thousands of pounds, many beautiful old Cape seedlings bearing 20 boxes of fruit per tree having been ruined by "Collar Rot." Being an infectious trunk disease, it spreads rapidly, hence this matter of water-logging is of the utmost importance, for "Collar Rot" usually comes as a result of too much water.

Water should never be allowed to stand round the trunk of a Citrus tree—a wall of earth, 6 to 8 in. in height, should be thrown around the tree 6in. from the trunk. This will prevent the spread of certain trunk diseases.

Where the Water is Needed.

It is evident that too much or too little moisture in the soil is bad for Citrus trees, and so the aim should be to have just sufficient moisture in the root zone. In heavy soils the most rootlets are in the first 18in. of the soil; in sandy soils the root-zone is somewhat deeper, hence there should always be sufficient moisture in the first 4ft. of soil.

When irrigating, therefore, the water should penetrate laterally and downwards to a depth of at least 4ft. Since the roots of bearing Citrus trees spread throughout the grove, the entire grove must be wet when irrigated, except the small portion around the trunks of the trees. Particular attention must be paid to the depth of penetration. In heavy soils a deep cultivation just prior to irrigation will help the water to penetrate to a sufficient depth. As soon as the rains cease and the dry season sets in, preparation should be made to irrigate as soon as required.

Cultivation

is necessary just after irrigation in order to create a soil mulch which will retard and cut down evaporation

—at least this is one of the theories. The latest is that a soil mulch does not retard evaporation. In any case stirring of the earth prevents baking of the soil, and makes it easier for water to penetrate.

Cultivation should only be used when the soil has dried out sufficiently for implements to be used. Cultivation must not be overdone, for it wears out a soil and rapidly depletes it. Excessive cultivation destroys organic matter which is essential for soil organisms that are necessary to bring about the changes with regard to plant food material. These organisms change the insoluble fertilizers into soluble form, so that the roots can utilize them.

Cultivation is, therefore, not a fundamental principle, but affects soil moisture, and must be used only in this regard. When there is competition between weeds and the trees for moisture, cultivation will have to be resorted to. If there is no competition let the weeds grow, and turn them in later. The weeds prevent erosion, and are a good source of organic matter. If the soil is too hard to absorb water, cultivation will improve the condition.

The Main Point

to be remembered with regard to soil moisture is always have sufficient moisture in the root-zone for the needs of the trees. Therefore, when irrigating, it does not matter whether the basin or the furrow method is used, so long as a good penetration, lateral and downward, is secured. On steep and heavy soils, the basin will probably give the best results. On a sandy loam on level land, the furrow method will be preferable. Always keep standing water away from the trunk of the tree, and see that the whole grove is irrigated.

(To be Continued.)

CALIFORNIA ORANGE CROP ESTIMATE.

The California Orange crop is estimated at 28,500,000 boxes by the United States Crop Reporting Board. This estimate has been increased from an estimate of 24,000,000 boxes in December, as a result of unusually favorable growing conditions and absence of injury from freezing. The Crop Board's estimate includes all Oranges picked during the current crop year, beginning the first of last November, and extending until the last of next October. The California Orange crop totalled 24,200,000 boxes last year, and 18,100,000 boxes two years ago.

DRAINAGE OF CITRUS LANDS.

(By S. A. Cock, Government Citriculturist, Victoria.)

AN INTERESTING ADDRESS on the Drainage of Citrus Lands was broadcast through 3LO recently, by Mr. S. A. Cock, Citriculturist of the Victorian Department of Agriculture. Mr. Cock said:—

Drainage of Citrus lands can be divided into two systems—surface drainage and underground drainage. Surface drainage is the essential planning of the soil surface of the grove to ensure the removal of surplus water from the surface of the soil during the winter months, or at any time when an over supply of water

gation practice renders it necessary to ensure good conditions for the removal of surplus water, whether the trees are planted on undulating or flat surfaces. This applies also to groves planted in localities of good rainfall, where irrigation is not practised.

Most of the soils of Victoria consist of loams of different consistency, resting on clay sub-soils of unequal depth and nearly all sufficiently tenacious to retain water. Where the sub-soil is shallowest, the surface soil is injured by the stagnant water resting on it; and where deepest, the trees are injured by cold conditions. The only plan of draining fitted to remove the wetness which produces this state of things is to allow the water to flow away through moderately deep and numerous drains.

To Determine Minimum Depth of Drains.

A drain is not a mere ditch for the conveyance of water. Were it only so, its size would be easily determined by ascertaining the quantity of water it would have to convey in a given time. The principal function of a drain, as its name implies, is to draw water towards it through the soil from every direction, and its subsidiary purpose is to serve as a ditch to convey it away when collected. These being its functions, it is obvious that the greater the area its sides present to the matter out of which it is to draw the water the greater efficiency it should exhibit; so it follows that the efficiency of a drain does not depend so much upon its breadth as upon its depth.

Various cultural factors, such as the depth of ploughing and subsoiling, may penetrate from 8in. to 24in. below the surface; therefore the drawing portion of the drain must be below that depth. Again, a subsoil of porous character though filled to saturation, will exhaust its water in a shorter time than one of an opposite character. It is found in the case of the most tenacious clay subsoils that in drying they rend into minute fissures to a great depth, as deep, in fact, as the drain reaches, and they, of course, convey water by means of these fissures to that depth. Allowing for cultural practices, and fissuring of tenacious clays, it would appear that the minimum depth to draw from would be 36in.

As regards the action of different subsoils, that part of the drain which draws the water under the earth should be occupied with such materials as will easily permit the water to pass through them. It is necessary to give a large area to the sides of a drain in a soil that draws water slowly, and a smaller area to

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.

Drop us a Line or Cable
"Peachbloom," Dunedin.

may result from heavy and continuous rainfall. For this purpose it is necessary to plan the surface of the grove by levelling and grading to ensure a complete run off of surplus surface water into drains which connect with an outfall channel, or a depression capable of carrying the storm water. Surplus surface water can be defined as water exceeding the quantity the soil can absorb without causing saturation.

Saturated soils, which may result from the causes already explained, may cause considerable damage to Citrus trees, especially during the winter months. To facilitate the run-off of surplus surface water, the autumn cultivation should be of such a character that the movement of excess water from the surface is facilitated to the utmost. No tree is less tolerant of bad conditions of drainage than a Citrus tree. Soils vary considerably in texture, and their adaptability to irri-

one in materials that draw freely. Slowly percolating subsoils should have deeper drains than porous ones. It is an error to imagine that water does not percolate through clay. Keeping these distinctions in subsoil in view, the citrus grower will soon learn the use to be made of them in the construction of efficient drains.

Position of Drains.

As main drains are intended to carry away the accumulations of water beyond what they themselves draw, they should occupy all the lowest portions of the grove, whether along the bottom, the sides, or the centre. If the grove is so flat as to have very little fall, the water is drawn towards the main drains by making them deeper than other drains, and as deep as the fall of the outlet will allow. If the grove has a uniform fall one way, one main drain along the bottom will answer the purpose. If it has an undulating surface, every hollow of any extent and every hollow of however limited extent should be furnished with a main drain.

Lateral drains should be so placed and constructed as to have an easy descent towards the main drain into which they individually discharge their water. They should be, as nearly as possible, cut in parallel lines down the fall of the ground; not that all the drains of the same grove should be parallel to one another, but only those in the same plane, whatever number of planes the grove may consist of. In a grove of one plane, there can be no difficulty in setting off the lateral drains, as they should all be parallel to one another, and all terminate in the same main drain, whether the grove is nearly level or has a descent. When the grove has an undulating surface, the same principle is differently arranged. The main drain is carried up the hollow, and the lateral drains are brought to it in parallels down the inclines.

Distance Apart of Drains.

As already pointed out, the deeper the drain the greater the distance the draw of the drain. It is generally accepted that in a fairly pervious subsoil a drain 3ft. deep will draw 15ft. on either side, while a drain 4ft. deep may influence the drainage on either side to a distance of 24ft. In a porous subsoil a drain 3ft. deep may be effective to a distance of 30ft. on either side. The draw of a drain is entirely dependent on the material of which the subsoil is composed. Drainage in Victoria is carried out at a depth of from 3ft. to 3ft. 6in. deep. The practice recommended to growers in setting out a drainage system is to

draw in every fourth row of trees to begin with. If this is found to be too far apart, another line of pipes should be laid in every second row. This would, in the case of trees planted every 22ft. apart, allow for a draw of 22ft., and if this is found insufficient the remaining rows should be drained. This would give a system of underground drainage at every 22ft. apart, and allow for a draw of 11ft., which should be capable at a depth of 3ft. 6in. of thoroughly draining the most tenacious subsoil.

Class and Size of Drain Tile.

For lateral drains, pipes 3in. in diameter should be used, and if the area drained by the laterals be a small one, a 4in. pipe will be found sufficient for the main drain. Should the area to be drained be undulating, and consist of many small areas eventually draining into one main drain, the laterals should be 3in. pipes draining into 4in. sub-main drains, and the whole of the sub-main drains, emptying into a 6in. pipe in the main drain. On areas such as are usually found in the irrigation districts, it will be found that many groves can be drained by lines of drains running parallel into one main drain. In such places where the area exceeds 2 acres, it is advised to use 3in. pipes for lateral drains, and make use of 4in. pipes for the beginning part of the main drain, and increasing to 6in. pipes as the flow from the laterals increases, according to the number of laterals employed and the area to be drained.

It is a good plan to place observation boxes at the junctioning of a system with a larger drain. These boxes should be about 2ft. square, and a foot deeper than the depth the drain tile is laid. The purpose of the box is to see that a line of pipes or a system of pipes is operating properly. The further depth of 1ft. of the box allows for the deposition of any matter which may be washed through a pipe line or system, and thus prevent in a large measure the choking of pipes, which so frequently occurs. These observation boxes are a necessity in groves where the drain pipes all connect with a main pipe drain. Where drain pipes empty into an outfall channel, individually, there is no necessity for observation boxes, as an examination at the outlet in the open outfall channel will show whether the pipe line or system is operating properly. These observation boxes should be made of red gum boards, so as to be enduring under the moist conditions of water and soil.

The drain tiles in the beginning

part of a lateral or main drainage pipe line should be brought to and slightly above the surface of the soil. The purpose of this is to permit of a complete circuit of air through a pipe line or system. To prevent the ingress of any material at the exposed end a flower pot is usually placed over it.

FROST DAMAGE TO CITRUS.

A Suggestion for Marketing.

Severe frosts experienced early in June did a certain amount of damage to citrus groves in the Murray Valley. Trees on eastern slopes were apparently most badly affected. In some districts it is stated that oranges which were white with frost suffered no damage. Young trees were badly nipped. Where growers were able to get special irrigation on to their groves straight away, little damage was done.

At Renmark 10deg. of frost were registered. Around Berri some damage is reported, but the position is not regarded as serious. At Chaffey and Cadell considerable damage is reported; at the latter place green fruits of Valencia Lates are dropping, and it is expected the trees will take some time to recover.

It is stated that mandarins have suffered worst, and in some orchards navel and other oranges are showing the effects of frost by the drying up of juice.

An interesting suggestion in regard to the marketing of frosted fruit is made by Mr. S. J. Wescombe, of Renmark, in the "Murray Pioneer." Mr. Wescombe is a grower of many years' experience.

Some 30 years ago, he said, Renmark was visited by frosts like those lately experienced. He was then living at the Crescent, and had a number of orange trees carrying a nice crop. The fruit was frosted; some fell off, and all commenced to dry out. It occurred to him that the oranges might be rejuvenated in the natural course of events if left on the trees, and he decided to test his theory. The fruit was not gathered till September, and was then marketed in a perfectly sound, juicy, and ripe condition.



Queensland

Orchard Notes for August :: District News
Notes by our Correspondent

CONGENIAL WEATHER CONDITIONS have been most favourable for orchard work, clearing, planting, &c., though reduced temperatures have somewhat retarded the maturing of fruit. Local Citrus fruits are of good quality, and much cleaner than last year's crop. The supply of Custard Apples is well maintained, but the prices this season show an appreciable reduction on those of previous years, due mainly to the avarice or indifference of a few growers marketing immature fruit early in the season. The effect of removing such fruit from the tree is that it will never ripen. If it should soften, the flavour is most inferior and the nature gritty. An excellent crop of Strawberries is recorded, though in some localities an infestation locally known as blight has caused severe individual losses. Though apparently of fungoid nature, attacking both foliage and fruit, it is invariably associated with the presence of thrips.

The Production of Tomatoes

is an important item in this State, where the Tomato is classed as a fruit. The importation of the green fruit from Fiji under the heading of vegetables and under a consequently reduced tariff, was, together with the duty on concentrated pulp from Southern Europe, submitted as a legitimate grievance to the Tariff Commission, which recently visited Queensland. The Tomato being admittedly a fruit botanically and the term vegetable being applied merely as a convenience, the attitude of the Commonwealth authorities thereto is rather irreconcilable. Tomato culture is an important adjunct to orcharding, being frequently included as a subsidiary crop between the trees during the earlier and unprofitable years.

The export to other States of immature or undersized fruit, to which it has been ruled that the exporting State's standards do not apply, has been the subject of much controversy, and a press intimation that Victoria had adopted the Queensland standards for bananas, and also gazetted maturity standards for Citrus is much appreciated, as is also the fact that, so far as Victoria is concerned, the question of standard Citrus case is definitely settled. It has been discussed without finality being reached at this end for upwards of 20 years.

Banana Borer Beetle.

The damage occasioned by beetle-borer in Bananas is appreciated by the C.O.D., the reward for an economic remedy for the pest being raised to £5,000. It is unfortunate that such apathy has existed regarding this pest, which is widely distributed, and finds congenial harbour and feeding ground amongst abandoned plantations. Certainly the State appointed a special entomologist to enquire into Banana pests, but this seems to have terminated with the appointment, so far as any benefit to the producer applies, and it is gratifying to note that the growers are prepared to do something on their own account.

The Planting Season

has been characterised by a slightly reduced demand for young trees, and as anticipated the usual conflict re-

WELL-KNOWN LONDON FIRM OF FRUIT IMPORTERS AND BROKERS

Require reliable and efficient Representatives (either firms or individuals) for New South Wales, Victoria, South Australia, and Western Australia, to influence Consignments of Apples, Pears, etc., commencing for the 1928 season, against the usual documentary credits.

Will exchange Bank and Trade References, and arrange suitable remunerations.

Write "B," C/o "FRUIT TRADES JOURNAL,"

1 Mitre Court, Fleet-street, London, E.C.4.

garding "Crown Gall" has re-appeared in respect of the admission or otherwise of deciduous trees from southern States. In respect of Orange and Mandarins, it is reported that the Department of Agriculture has arranged to procure for nurserymen the necessary bud-wood of a limited number of varieties which are recommended. It is hoped by this means that the number of unprofitable trees will be reduced to a minimum. A wide range of varieties is catalogued at present, with what benefit is not apparent, but it suggests extra trouble and labour to the nurserymen, and serious losses to those who are unfortunate in their selection—10 per cent. valueless trees in southern Queensland orchards is a low estimate. For Oranges, Byfield Seedless, Joppa, Late Valencia, and Washington Navel

are recommended, and Mandarins, Emperor, Glen Retreat, and Scarlet. Other varieties have their advantages in isolated localities, but on the whole these are very heavily outweighed by their disadvantages. By limitation of varieties and careful selection of bud-wood, a very appreciable increase in orchard returns is sure to result.

ORCHARD NOTES FOR AUGUST.

THE COASTAL DISTRICTS.

The bulk of the Citrus fruits with the exception of the latest ripening varieties in the latest districts, are now fully ripe, and should be marketed as soon as possible, so that the orchards can be got into thorough order for the Spring growth. All heavy pruning should be got into thorough order for the Spring growth. heavy pruning should be completed previous to the rise in the sap, and where Winter spraying is required, and has not yet been carried out, no time should be lost in giving the trunks, main branches, and inside of the trees generally a thorough dressing with lime and sulphur wash.

Re-working Failing Trees.—Where Citrus trees are showing signs of failing, such as large quantities of dead or badly diseased wood in the head of the tree, they can (provided the root system is healthy) be renovated by cutting back the entire top of the tree till nothing but sound healthy wood is left. This should be thinned out, only sufficient main limbs being left from which to form a well-balanced tree, and the trunk and limbs so left should receive a dressing of lime sulphur, or Bordeaux paste.

Healthy trees that are only producing inferior fruit should be treated in a similar manner, and be either grafted with an approved variety direct or be allowed to throw out new growth, which can be budded in due course. The latter method is to be preferred, and an inferior and unprofitable tree can thus be converted in the course of a couple of years into a profitable tree, producing good fruit.

Ploughing.—Where orchards have not already been so treated, they should now be ploughed so as to break up the crust that has been formed on the surface during the gathering of the crop, and to bury all weeds and trash. When ploughed, do not let the soil remain in a rough, lumpy condition, but get it into a fine tilth, so that it is in a good condition to retain moisture for the tree's use during Spring. This is a very important

matter, as Spring is our most trying time, and the failure to conserve moisture then means a failure in the fruit crop, to a greater or lesser extent.

Do not be afraid if you cut a number of surface roots when ploughing the orchard, but see that you do cut them, not tear them. Use a disc plough and keep the discs sharp, and the root-pruning the trees will thus receive will do more good than harm, as it will tend to get rid of purely surface roots.

Planting of all kinds of fruit trees can be continued, though the earlier in the month it is completed the better, as it is somewhat late in the season for this work. The preparation of land intended to be planted with Pineapples or Bananas should be attended to. Spare no expense in preparing the land properly for these crops, as the returns obtained when they come into bearing will handsomely repay the extra initial expense.

Growers of Pineapples and Bananas who send their fruit to the Southern markets should take more care in the grading and packing of such fruit, as their neglect to place it on the market properly means a big difference in price, and entails a loss that could be avoided had the necessary care and attention been given. The same remarks apply to the marketing of Citrus fruits, Papaws, Custard Apples, Strawberries, Cucumbers, and Tomatoes, all of which are in season during the month.

The pruning of all Grape vines should be completed, and new plantings can be made towards the end of the month. Obtain well-matured, healthy cuttings, and plant them in well and deeply-worked land, leaving the top bud level with the surface of the ground, instead of leaving 6 or 7 in. of the cutting out of the ground to dry out, as is often done. You want only one strong shoot from your cutting, and from this one shoot you can make any shaped vine required. The spraying of vines for downy mildew is not compulsory, but an application eliminates black spot.

Fruit-fly will make its appearance during the month, and Citrus and other fruits are likely to be attacked. Every grower should, therefore, do his best to destroy as many flies as possible, both mature insects and larvae, the former by trapping or otherwise, and the latter by gathering and destroying all infested fruit. If this work is carried out properly, a large number of flies that would otherwise breed out will be destroyed, and the rapid increase of the pest be

materially lessened. The destruction of fruit-flies early in the season is the surest way of checking this serious pest.

Keep a careful lookout for orange-sucking bugs, and destroy every mature or immature insect or egg that is seen. If this work is done thoroughly by all Citrus growers there will be far fewer bugs to deal with later on, and the damage caused by this pest will be materially reduced. Destroy all elephant beetles seen on young Citrus trees, and see that the stems and main forks of the trees

T. STOTT & SONS
Fruit Merchants
 Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

are painted with a strong solution of lime sulphur.

The Granite Belt, Southern and Central Tablelands.

The pruning of all deciduous trees should be finished during the month, and all such trees should be given their annual winter spraying with lime sulphur. The planting of new orchards should, if possible, be completed, as it is not advisable to delay. Later planting can be done in the Granite Belt, but even there earlier planting is to be preferred.

Peach trees, the tops of which have outlived their usefulness and of which the roots are still sound, should be cut hard back so as to produce a new top which will yield a good crop of good fruit the following season in from 15 to 18 months, according to the variety.

Apple, Pear, or Plum trees that it is desirable to work over with more suitable varieties should also be cut hard back and grafted. All Almond, Peach, Nectarine, and Japanese Plum trees should be carefully examined for black peach aphid, as, if the insects which have survived the winter are systematically destroyed, the damage that usually takes place from the ravages of this pest later on will be materially lessened.

Woolly aphid should also be systematically fought wherever present. The best all-round remedy for these two pests is spraying with black leaf 40.

In the Granite Belt the pruning of vines should, however, be delayed to as late in the season as possible, so as to keep the growth back and thus endeavour to escape late Spring pests.

Where orchards and vineyards have been pruned and sprayed, the land should be ploughed and brought into a state of as nearly perfect tilth as possible, so as to retain the moisture necessary for the proper development of the trees or vines and the setting of their fruit.—"Queensland Agricultural Journal."

Eumundi, Q.—Citrus growers on the North Coast (Queensland) have no real winter to help them in checking either vegetable or insect "unwants" in their orchards, consequently most cultural work can be carried on almost regardless of seasons.

The chief pests to be fought are the wax-scales and white louse, usually treated with Lime Sulphur at varying strengths, from 1-12 to 1-20, usually applied during spring.

The choice of fertilizers is as varied as growers' taste, but experience is demonstrating the best proportions suitable for the varying soils used. Some growers use mixed "feeds," others prefer doing their own mixing, using from 10-12lb. to a tree, 2-16-10 being a popular proportion.

Hoe Cultivation.

It is worthy of note that growers using hoe cultivation get more consistent crops than are obtained from machine cultivation and heavy ploughing, probably due to less interference with root system.

Little green manuring is practised, weeds and grasses providing a generous supply of humus. No details of private experiments are obtainable, but the Government has begun on this matter.

Fair crops were obtained last season, but severe drought, followed by excessive rains, cut down averages. Present appearances point to a good crop this season, samples at local shows being very fine.

The coastal fruit belt in this State is unlimited—from the Tweed River to Cape York being suitable for all classes of tropical and sub-tropical fruits. Pines and Bananas predominate on North Coast line, with Citrus third. Last year 377,150 cases Bananas, 59,092 cases Pines, and 4,087 Citrus were sent from here to Melbourne.—Munro Hull, Eumundi.



Dried Fruit Department

EX-SOLDIER VINE GROWERS.

Appeal to Minister.

The Victorian Minister for Lands and Water Supply (Mr. H. S. Bailey) recently made a tour of the Mallee and irrigation settlements, to acquaint himself with local conditions at Red Cliffs.

More than 500 soldier settlers of the dried fruits settlement met the Minister. Mr. T. J. Hume Humphries, of the Red Cliffs branch of the Returned Soldiers' League, said that the position of the average settler at Red Cliffs was financially unsound. Blocks were over-capitalised, and prices for dried fruit did not represent an economic return on the capital invested. "We owe the tradespeople of this town more than £50,000," he said, "and the average return for a year's work to the blockholder is something less than £2 a week. We live on a series of liens on our crops. Settlers here want immediate suspension of arrears of instalments until the recommendations of the Advisory Board have been made to Parliament. Are you prepared," he asked Mr. Bailey, "to support our claim that the producer should have the right to a living wage out of his earnings?"

The Minister replied that every man should receive sufficient from his earnings to live in decency. He pointed out that the large question of repatriation was a Commonwealth one, but promised to bring the matter before Cabinet.

Other speakers said that the 1927 crop of dried fruit was almost double that of the previous year, and indications pointed to the great probability that the 1928 crop would represent a further increase on the present year. Unless markets were found and developed for this increased production—a state of affairs which should have been seen by the Ministry which was responsible for the establishment and growth of the settlement—the position of the settlers would be critical.

CALIFORNIA DRIED FRUITS INDUSTRY.

Co-ordinating Committee Formed.

A committee, known as a co-ordinating committee, has been created by the Dried Fruit Association of California, whose function it will be to consider problems affecting the dried fruit industry of this State, from the broad, basic values that are thus indicated. This committee, formed through the recent decision of the Dried Fruit Association of California, will serve as an advisory council, and it is believed that there is splendid opportunity thus offered for industry progress through the activities and deliberations of such a committee group, says the "California Fruit News." Dried fruit packers and shippers, members of the Association in California, are being asked to send in any suggestions they may have for the proper consideration of this committee. As indicating the scope of the plan, it will be of interest to learn concerning the first meeting.

The first meeting of the committee was held on April 6. After statements had been made of the purposes of the co-ordinating committee, four sub-committees were created for the purpose of dealing with pomology, fruit products, entomology, and extension propaganda among the various county agents of the University of California's agricultural college. The committees will proceed to function immediately by making surveys of present conditions and problems in their respective branches. It is anticipated that as the work progresses various authorities will establish contact, and consult with the committees. In this way studies may be undertaken covering a wide range of problems, including, for example, the vitamin content of various dried fruits on one hand and the practices of nurserymen selling fruit tree stocks on the other. The work of the committees will be kept as closely related to the practical day-to-day needs of the industry as it is possible, while at the

same time taking a long-time view of the industry, which will also permit of reforms being suggested which have as their objective a corrected condition in the industry 10 or 20 years' hence.

RAISIN PRODUCTION COSTS IN CALIFORNIA.

Using the cost figures from 92 vineyards from one to 92 acres in size, the agricultural extension service of California has determined that it is necessary to produce 2,744 pounds of Raisins to the acre, according to the average, to pay the cost of production, based on 4 cent Raisins, says the "California Cultivator." The cost of production includes six per cent. on the investment in land. Muscats, under the same plan, should yield 2,235 pounds to the acre. The average size of the Thompson vineyard considered was 20.1 acres and of the Muscats 39.6 acres.

Cost of producing Malagas was 97.86 dols. an acre, with a yield of 4.28 tons an acre, selling at 22.86 dols. a ton to meet cost. Cornichons, costing 125.95 dols. an acre, would require 5.7 tons, selling at 24.84 dols. a ton.

Factors considered in the study were labor, which was reckoned by the hour at regular wages; all materials, such as sulphur, power and fertilisers; water and county taxes, interest and depreciation on implements and equipment, interest and depreciation on improvements, interest and depreciation on vines, including the land; interest and depreciation on unimproved land and general expense, which was fixed at ten per cent. of the total cost of labor and materials. Depreciation on the dwelling houses was not considered, although the investment in tenant houses and labor camps was considered.

Under labor and materials the following items were considered in computing the cost:—Pruning, brush disposal and time, cover crops, fertilising, spraying for black mildew, cutworm control, ploughing and cultiva-

tion, irrigation, sulphuring, suckering and thinning and all harvesting costs.

The total average cost for labor and materials on 703 acres of Thompsons was 61.51 dols. an acre. For 683½ acres of Muscats the cost was 50.29 dols. an acre; for 323 acres of Malagas, 56.39 dols.; 28 acres of Emperors, 68.15 dols.; ten and one-half of Cornichons, 69.49 dols.; 26 of wine Grapes, 52.60 dols.

On a tonnage basis the Thompsons on a yield of 1.71 tons an acre, cost 64.21 dols. a ton; Muscats, on 1.47 tons to the acre, cost 60.82 dols. a ton. The average production for the two varieties was 1.61 tons, with cost at 62.81 dols. a ton.

Records for the report were secured from the territory in Fresno County from four miles west of Kerman to one mile east of Reedley and from Clovis to Kingsburg.

(Reckon five dollars to the £.)

VINEGROWERS! SWAB TO PREVENT BLACK SPOT.

The Victorian Government Viticulturist (Mr. F. de Castella) desires to bring under the notice of vine-growers the risk of a Black Spot outbreak during the coming season, and the opportuneness of swabbing Sultanas and other vine sorts that are susceptible to this disease before the sap rises in early spring.

Though little or no damage was caused by Anthracnose last season, owing to the dry weather, the fungus is nevertheless present at innumerable points throughout most vine blocks. It only needs a showery spring to cause a disaster to vines that are not adequately protected.

Vines can, no doubt, be protected solely by copper sprays, such as Bordeaux, after the buds have sprouted; in a showery spring, however, this entails repeated sprayings at short intervals. On vines that have been swabbed, the fungus does not show up nearly so soon, nor is it so abundant, and far less protective spraying is needed. Swabbing, though an unpleasant process to execute, is well worth while.

The usual formula for the swab is:—Hot water, 10 gallons; sulphate of iron, 20 lbs.; sulphuric acid, 8 lbs.

This solution is very corrosive, and must be prepared and handled with care. It can be either swabbed or sprayed on to the vine, but special spray pumps are necessary to withstand the solution. The best time to swab is just before the buds commence to swell in very early spring.

For further particulars, see Bulletin No. 42, Anthracnose or Black Spot

of the Vine, obtainable post free on application to the Director of Agriculture, Treasury Gardens, Melbourne.

GRAPE THRIPS.

Suggested Control Methods.

The April bulletin of the California Department of Agriculture states that Pear thrips were showing up in large numbers in orchards along the Sacramento Valley, and warned vinegrowers to be on the lookout for a species of thrips which caused severe damage to grapes the previous year. The following control schedule is suggested:

Under favourable weather conditions, such as still, warm days, reasonable results may be expected by thoroughly dusting vines with nicotine dust containing not less than 6 per cent. nicotine sulphate. Where power spraying equipment is available, an application of liquid spray, consisting of highly refined oil emulsion 1½ gal., with nicotine sulphate 1½ pints, in 200 gal. of water is recommended.

This season 2,002 tons of Australian dried fruits were sold in Canada, as compared with 776 tons for last season. This quantity included 1,194 tons Currants, 494 tons Sultanas, and 314 tons Lexias.

DRIED FRUITS.

Sales in London.

Sales of Australian dried fruits in Great Britain recorded with the London agency of the board for the week ending July 7 represented:—Sultanas, 361 tons, at an average price of £59/5/6 a ton; Currants, 286 tons, at an average price of £42/13/7; Lexias, 44 tons, at an average price of £49/7/3 a ton. This brings the total realisations for new season's fruit to:—Sultanas, 2,463 tons, at an average price of £60/9/- a ton; Currants, 2,809 tons, at an average price of £42/8/9 a ton; Lexias, 227 tons, at an average price of £50/12/8 a ton.

Sales of Sultanas for the present season exceed those for the corresponding period of last year by 256 tons.

Australia will be represented at the Toronto Exhibition in August by displays of dried and canned fruits. The former will include currants, sultanas, and lexias of various grades, and the latter apricots, clingstone peaches, and pears. In addition, 100 tons of dried fruits will be available for sale during the exhibition. Showcards, films, photographs, and advertising material will be displayed.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof · HAMBURG · Germany

Established
1885

Tel.-Addr.:
„Timmkorn
Hamburg“

★
Special
Catalogues
showing
prices
issued
after
each sale



★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired

BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Tasmania

State Fruit Advisory Board :: Apple & Pear Shipment
Notes by our Correspondent :: Orchard Work for August

THIS WINTER is proving one of the coldest we have experienced. During July a succession of severe frosts occurred, which have considerably retarded the growth of early crops.

The season has been favorable for orchard operations. Pruning is well in hand, and most growers, owing to the dry conditions, have been enabled to make an early start with their cultivation.

A tour through the principal fruit districts shows that a fair amount of planting is taking place. This is

and high prices are being obtained for medium and choice lines.

The reports which are being received of sales from the late "over-seas" arrivals are generally satisfactory, and the majority of growers have experienced an all-round good season, although the yields were below the average. To date 1,112,630 cases of Apples and Pears have been forwarded to mainland markets. Very little fruit is now being held in the packing sheds, and supplies in cold stores are being drawn upon. The latter is turning out in good condition, and within a few weeks the choice colored varieties should command a high figure.

State Fruit Advisory Board.—The committee which was appointed subsequent to the last Annual Fruit-growers' Conferences to draw up a new scheme for the election of producers' representative upon the Board, has presented its report, which has received the approval of a majority of the members.

It is recommended that the State be divided into eight districts, and nominations received for each, one representative being appointed for each division. Under this system it will be necessary for a returning officer to be appointed to conduct the election, voting being carried out by a postal ballot.

Brisbane Markets.—An Association of Selected Agents has now been formed in Brisbane to operate on similar lines to the Sydney Organisation. The membership is limited to 15 agents, the principal aims and objects being:—

(1) To work in conjunction with the Tasmanian State Fruit Advisory Board for the purpose of efficient and effective handling and marketing of all Tasmanian fruit and produce consigned to Brisbane.

(2) Report to and advise the Tasmanian State Fruit Advisory Board on all matters which they consider will be of advantage to the grower.

(3) Give weekly quotes and conditions of the market.

(4) Supervise discharge of fruit on the wharves and better handling.

(5) On any dislocations of transport by industrial strife, and other matters, to use their best endeavours to avoid any loss to the owners of the fruit and produce.

(6) To stabilise prices of such com-

modities and to do all things beneficial to the advancement of the Tasmanian trade.

STATE FRUIT ADVISORY BOARD.

A meeting of the State Fruit Advisory Board was held at Hobart on June 28. There were present: Messrs. N. Campbell, M.H.A., Chairman, T. J. Eddington, F. Cole, J. H. Astell, A. Davies, F. Peacock, E. Reed, B. J. Pearsall, J. P. Piggott, W. H. Calvert, V. Skinner, P. H. Thomas, Secretary.

Pre-cooling of Fruit.—A letter was received from Mr. P. E. Keam, of the Commonwealth Institute of Science and Industry stating that he had been in communication with the Development and Migration Commission, and was advised that the Department did not propose to take any action to enforce pre-cooling of fruit before export until the question had been investigated by the Council, and was further considered by the representative body of the Fruit industry. Mr. Keam was thanked for his action.

Fresh Fruits Marketing Act.—A letter was received from the Department of Markets and Migration in response to the Board's inquiry as to the method which was to be adopted for the compilation of the roll of exporters who would be entitled to vote at the coming ballot. It was decided to recommend that a roll be first compiled and published, and that growers be given an opportunity, within a period of three weeks, to lodge claims for enrolment on the supplemental roll.

Retail of Fruit from Street Barrows.—Correspondence was read from the Launceston Municipal Council in regard to the Board's inquiry whether provision could be made for the retail of fresh fruit from street barrows, on similar lines to that existing in other cities of the Commonwealth. The Launceston Council intimated that they could not see their way clear to take any action in the matter. It was decided to ask the Launceston Council if they would agree to granting licences for specified stands for fruit barrows in the streets of Launceston.

Inspection of Fruit.—It was decided that, in order to carry out the inspection of fruit more effectively, the Minister for Agriculture be recommended to make representations to the Minister for Markets and Migration that the whole inspection of fruit for export, both Interstate and overseas, be placed in charge of the State authorities.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osake Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

Fruit Shipments
United Kingdom
and the Continent

W. D. PEACOCK
& CO.

24 Southwark St., London Bridge,
LONDON, S.E. 1.

AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

generally in the form of an extension of existing areas, and is principally confined to Apples, preference being given to the varieties "Tasma" (Democrat), "Granny Smith," and "Tasman's Pride." Regular shipments of Apples are still being maintained to mainland markets,

At this stage the Director of Agriculture introduced Mr. L. R. MacGregor, who is visiting Tasmania at the request of the Development and Migration Commission, to inquire into the methods of marketing Tasmanian products. Mr. MacGregor conferred with members of the Board, and detailed some of the systems of organisation in vogue in other producing centres.

APPLE AND PEAR SHIPMENTS —TASMANIA TO MELBOURNE— MARCH TO JUNE, 1927.

The following is a summary of the returns received from the Victorian Department of Agriculture in respect to consignments of fruit shipped from Tasmanian ports, for the period of March to June, 1927.

The number of consignments which did not comply with the regulations were confined to seven exporters, representing 603 cases.

These were subsequently carefully inspected, the total rejects amounting to 298 cases, which were either destroyed, sent to the jam factories, or returned to Tasmania.

From the information which is to hand, the total exports of Apples and Pears to Melbourne for this period approximate 120,000 cases.

BACK TO SCOTLAND.

Five hundred Australians of Scotch descent are leaving for Scotland in April, 1928, to boost Australia. The committee estimates that £200 will more than cover the six months' trip. The travellers, who are paying their own expenses, will journey by the Hobson's Bay, and after touring England and Scotland, the party will break up, the members visiting friends as desired, and returning to Australia at their leisure by any one of nine or ten routes. It is believed that personal contact of this kind with folk in the old country will sow good seed in favour of migration to Australia. The tour has the official approval and sanction of the Commonwealth Government, and the Development and Migration Commission. Full particulars regarding the tour may be had from Mr. A. Gilchrist, Secretary, New

Settlers' League, 65 Elizabeth-street, Melbourne.

ORCHARD OPERATIONS FOR AUGUST.

(By P. H. Thomas, State Fruit Expert.)

Pruning.—Pruning will now be approaching completion. It is advisable that the different fruits should be finished before any growth commences, otherwise the shock may interfere with the setting. In the case of certain stone fruits a serious gumming from the wounds may take place if the operation is delayed beyond the dormant period.

Re-working Unprofitable Varieties.—Grafting may be performed as soon as the first sap movement commences. The scions for this operation will have been held from the previous month's pruning, being "heeled" under the soil in a well-drained situation.

When de-heading the trees required to be re-worked, do not cut back too hard into the main limbs. This, besides increasing the danger of fungus infection, exposes a larger area of naked wood to be heeled over, and creates a greater diversity between roots and branches. The chief necessities toward the successful performance of the operation are:—

- (a) Clean cutting of both scion and stock with a sharp knife;
- (b) Tightly fixing the scions in position by tying with raffia tape or waxed bands;
- (c) The exclusion of air and water from the incision by means of a good grafting wax.

Apples, Pears, and Plums may be successfully re-worked by the grafting process. Peaches, Nectarines and Apricots do not lend themselves to this treatment in these latitudes, the method being to de-head the trees in the winter and "bud" into selected shoots that are formed from the main limbs the following summer.

Spraying.—The chief operations necessary during the month are the application of the late dormant sprays necessary to control fungus infection of stone fruits, and the strong contact insecticidal sprays.

The former should be put on early in the month, the Bordeaux or Burgundy Mixtures (6-4-40 formula) being recommended for Apricot shot-hole fungus, or Peach curl.

Apple areas affected with powdery mildew that have not been sprayed in the preceding Autumn should receive an iron sulphide spray after pruning is completed.

Orchards which are attacked by Red Spider, Mussel Scale, or Woolly

Aphis will need a strong oil emulsion to be applied during the month.

In order to successfully control the Black Aphis, which attacks Cherry trees, it is necessary to apply oil emulsion (1-15) during the early part of the month. This will kill the overwintering eggs of the aphids, which are laid in the cracks and crevices of the bark. This should be supplemented by a nicotine spray after the petals have fallen.

Manuring and Cultivation.—Toward the end of the month, quick-acting chemical fertilisers, such as nitrate of soda, sulphate of ammonia, and potash may be applied. In old orchards this is best effected by broadcasting between the rows, and working into the soil by an early Spring ploughing or

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,
11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,
9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

cultivation. Cultural operations may be carried out as soon as the soil is in proper condition. If the ground is inclined to be wet and sticky it is advisable to postpone the operation until a more favorable period.

Marketing.—Medium-keeping varieties should now be cleared from the cold stores, whilst all varieties that are being kept under ordinary storage will require careful examination, and to be marketed at the first opportunity.

PATENTS
GEORGE A. UREN
PATENT ATTORNEY
"HENTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

The Fruit Trees of Victoria

A Valuable Census

(By Jas. H. Lang.)

THE CENSUS of Fruit Trees for the year 1926, prepared by the Government Statist of Victoria at the request of the Minister of Agriculture, has now been completed.

The report gives the number of trees of the leading varieties of each of the various kinds of fruit, also the number of bearing and non-bearing trees. This enables one to see the distribution of the various fruits throughout districts and countries, also which are the most popular varieties, the extent of plantings during the last few years, and the varieties most in favour among the growers.

The following table gives the total number of fruit trees in Victoria, both bearing and non-bearing, and the percentage of non-bearing to the total:—

	B.	N.B.	T.	Per Cent.
Apples	2,281,817	751,046	3,032,863	25
Pears	803,344	247,341	1,050,685	24
Peaches	876,635	222,333	1,098,968	20
Apricots	397,402	67,532	464,934	14
Plums	313,699	93,972	407,671	24
Jap. Do.	65,767	16,873	82,640	20
Quinces	77,950	15,733	93,683	17
Cherries	112,324	29,228	141,552	20
Nectarines	13,539	3,570	17,109	21
Oranges	320,508	237,843	558,351	43
Lemons	130,634	64,881	195,515	34
Mandarins	17,782	21,867	39,649	55
Grape Fruit	1,597	5,959	7,556	79
Grape Vines	16,522,188	1,956,662	18,478,850	11

This shows that the greatest proportionate increase in plantings during recent years has been in Citrus fruits, the Grape Fruit and Mandarin showing greater increase than any other. Among the deciduous fruits, Apple, Pear, and Plum find the most favour, while there is a distinct falling off in Quinces and Apricots. As the commercial life of the Apricot tree is comparatively short, one can look for a reduction in output in the future unless extensive plantings are made.

Distribution.

In Apples the Central District, comprising the counties of Grant, Bourke, Mornington and Evelyn, contains 2,152,616 trees, or 71 per cent. of the total for Victoria, followed by North Central with 255,601, or 8 per cent. of the total. Among the counties, Mornington has pride of place with 1,044,261 trees, equal to 34 per cent. of the Apple trees of Victoria.

The Central District also contains the greatest number of Pear trees, viz., 598,710 trees, being 57 per cent. of the total. This is followed by the Northern District with 334,153 trees, or 32 per cent. The county of Bourke has 352,420 trees, or 34 per cent. Rodney comes next with 154,445 trees, 15 per cent. of the total of Victoria.

Almost all the Orange trees are in the Mallee and Northern districts, these two having 544,046 trees out of a total of 558,351 for the State. The county of Karkaroc has 24 per cent. of the total trees.

Quinces are divided between the Central and Northern districts, with 66 per cent. and 20 per cent. respectively, while the position is reversed with Apricots, Northern containing 58 per cent. and Central 27 per cent. Very fine Cherries are grown outside the Central District, which contains 80 per cent. of the trees of the State.

It is when one comes to Peaches that the Northern District holds its own, with 70 per cent., or 766,360 trees, against Central with 281,112 trees, or 25 per cent. In Plums and Prunes, also in Japanese Plums, Central again heads the list, followed by the Northern District.

Among the vines the census shows that Raisin grapes are grown principally in the Mallee, Table grapes in the

Northern, and Wine grapes in the North-Eastern Districts.

In reviewing the distribution, one cannot but be struck by the large quantities of fruit produced in the Central District, as, in addition to the fruits mentioned, it has almost a monopoly of Raspberries, Loganberries, Strawberries, Gooseberries, and Currants.

Varieties.

The principal varieties of Apples grown are:—

	B.	N.B.	Total.
Jonathan	910,146	247,572	1,157,718
Rome Beauty	253,012	98,555	351,567
London P.	183,438	36,636	220,074
Yates	135,140	57,251	192,391
Delicious	46,112	75,146	121,258
Dunn's	91,761	18,893	110,654
Stewart	56,303	35,452	91,755
Gravenstein	58,011	18,569	76,580
Cleopatra	46,290	12,412	58,702
Granny Smith	21,936	29,672	51,608
Reinette du Canada	42,801	6,935	49,736
Rokewood	38,668	6,348	45,016
King David	35,648	6,304	41,952

Other varieties with a total of over 20,000 are: Alfriston, Tasma, William's Favourite, Stone Pippin, Sturmer, Esopus, and Pomme de Neige.

It is interesting to compare these totals with those of New South Wales, where a census was taken recently, the order of preference then being:—

	Trees.
Granny Smith	216,580
Jonathan	203,787
London	112,819
Rome Beauty	67,788

the total number of Apple trees in N.S.W. being 1,008,582.

One can see from the Victorian list the tendency of growers to specialise in the leading varieties, and the extent to which Delicious and Granny Smith have been planted during recent years, these and Tasma being the only varieties when the non-bearing trees exceed the bearing.

In the early days of fruit-growing in Victoria, all varieties were introduced from England. Experience has shown that the American varieties are more suitable for our condition. In the first ten varieties five are American, three Australian, one English, and one German.

Pears naturally show a preponderance of W.B.C., which accounts for 461,831 trees:—

	Trees.
Beurre Bosc	112,668
Packham's Triumph	101,720
Josephine	60,428
Howell	56,631
Glou Moreceau	47,032
Winter Nelis	43,235
Winter Cole	40,831

Among 17 varieties of Oranges listed, Washington Navel (329,091) and Valencia Late (139,897) are the ones chiefly grown. Emperor Mandarin and Lisbon Lemon predominate in their respective classes.

Peaches give us:—

	Trees.
Pullar's Cling.	268,995
Elberta	68,366
Briggs	67,365
Hales	67,044
Nicholl's Orange	63,648
Goodman's	57,545

Anyone desiring fuller information can obtain a copy of the report on application to the Department of Agriculture. Additional figures will be published later.

Western Australia

Seasonal Work in the Orchard : Trapping Fruit Fly
Record Export Season : W. A. Wines

WESTERN AUSTRALIAN WINES.

Although Western Australia has been producing wines for many years, its development has been of a somewhat negligible quantity as compared with the great strides made by the other wine-producing States in Australia, but it is decidedly encouraging to be able to say that if our immense area of land and natural conditions, favorable to the production of wine of a suitable export quality are utilised upon sound cultural scientific methods, Western Australia should become one of the leading wine-producing States of the Commonwealth. If suitable varieties of wine Grapes were available in the State to-day, the demand for them would be practically unlimited. One variety of wine worth pushing especially is that known generally to the trade as "Ruby Red Sweet." This is a variety of wine Western Australia is well adapted to produce, and in large quantities, says the "Producers' Review."

The Commonwealth Excise Department is very strict and rigid in its examination, as no sweet wine under the Bounty Act is permitted to be exported containing under 34 per cent. proof spirit. Such spirit used in fortification must be obtained from general distillers who have paid up to standard price per ton for their Doradilla Grapes previous to distillation, of which the Excise Department have a list. This applies to vignerons intending to export only under the Bounty Act, therefore, no bounty can be obtained unless the general distilling firms in the Eastern States are paying a set price for Doradilla Grapes. The object of this is to relieve the Doradilla grower who has extensively planted that variety, but which is of no commercial value for wine-making, nor as fresh or dried fruit, because its place has been taken by more suitable varieties. The Bounty Act has therefore relieved the unfortunate position for those growers.

The important advance now made in the wine industry of our own State should pave the way for a large distillery here, provided the Commonwealth Government would allow bounty to be collected on the distillate from the fresh and dried Grapes surplus, and thereby safeguard our supplies and prices for fortifying spirit instead of having to depend

upon the Eastern States, as at present, with all the increased cost of handling charges and freight to handicap the industry here.

W.A. FRUIT EXPORTS.

A Record Season.

Figures given in a bulletin issued by the State Publicity Department indicate that more than half a million cases of fruit have been despatched overseas from Western Australia since the beginning of the present year, and that by the end of June the season's total was expected to reach 550,000 cases. This constitutes a record for the State, the previous highest export being 407,085 cases in 1922-23. The quantities are as follow:—Apples 464,283 cases; Grapes, 34,999 cases; Pears, 26,059 cases, the balance being made up of Peaches, Plums, Quinces, etc.

The Agent-General for Western Australia (Mr. W. C. Angwin), who saw some of the cases from the State opened, reported that the fruit had carried well, and had sold at satisfactory prices. The former Agent-General (Sir H. P. Colebatch), pointed out recently that Western Australia had an enormous advantage in regard to the Apple industry. Fruit of high quality, he said, was grown, and at the time it reached London, Australia had the market practically to itself. If none but the best were sent abroad, fruitgrowing would become one of the most flourishing of the State's industries.

The export value of the State's fruit crop this year should be well over £250,000.

TRAPPING FRUIT FLY (*Ceratitis capitata*).

A Big Capture—15,000 Fruit Flies.
(By L. J. Newman, F.E.S., Entomologist, in the "Journal of Agriculture" of W.A.).

WITH A VIEW to further demonstrating the effectiveness of trapping or luring as a valuable adjunct to foliage baiting, a test was made in a suburban garden. Five Orange trees were selected, and into each tree two open slip-lid tins were placed.

The lure used was the following: Pollard, 8oz.; powdered borax, 8oz., and water 1gal. The ingredients were thoroughly mixed and allowed to steep in water for twelve hours. At the end of this period the whole was well shaken together and allowed to settle. When settled the clear amber-coloured liquid was drawn off and used in the tins. The thick residue was thrown away. By using only the clear liquid the clogging of the traps is prevented. The lure was renewed every seven days.

The test was for one month, commencing mid-April and terminating mid-May.

The capture in the 10 traps was astonishing, no less than 15,000 flies being recorded.

In our efforts to control this pest much good work could be accomplished by a continuous campaign. Unfortunately most growers fail here. On the advent of the rains and winter weather they cease to take any further action against the fruit-fly. It is not until the stone fruits in the early summer become infested that the average grower again awakens to the fact that the fly is on the war-path.

I desire here to reiterate the often-repeated statement that we have an active generation of this pest through-

PREVENTS :-

CURL-LEAF

BLACK-SPOT

SHOT-HOLE

MILDEW



Don't Bother
mixing
Bluestone & Lime
when this is
JUST as GOOD
JUST as CHEAP
and
Much Quicker

Sole agents for Victoria :

LAWFORD'S FRUIT EXCHANGE PTY. LTD. DONCASTER

out the year. The fly in the main depends on the over-wintering adults to carry it through to the early stone fruits.

Trapping and foliage baiting should be continued throughout the winter and spring whenever weather conditions will permit. Every fruit-fly captured or poisoned during this period is reducing the carry-over strength of the pest.

SHORTAGE OF SEASONED CASES AND FRUIT TRUCKS (W.A.).

Complaints have been made by fruitgrowers in the Balingup and Bridgetown districts of inadequate supplies of seasoned fruit cases from the State Saw Mills. Shortage of covered railway trucks for the transport of fruit has also caused inconvenience to growers during the past season, in some cases the fruit being moved in open coal trucks. Steps are being taken to urge the Railway Department to remedy this deficiency.

WESTERN AUSTRALIA.

Seasonal Report to End of June, 1927.

During the month under review the markets have been well supplied with Apples, but prices have remained firm, Jonathans bringing from 8/- to 10/-, and Granny Smiths from 10/- to 15/- a bushel case. A few Yates came forward, and realised for special quality up to 14/-.

Oranges and Lemons were well supplied, but cold weather has militated against ready sales. A few Mandarins were offered, and the prices realised were from 9/- to 12/- per three-quarter bushel case.

It is interesting to note that Strawberries, even in the month of June, were available at the Perth Markets, and sold at 15/- per dozen punnets.

Tomatoes, which are on sale in Perth Markets the whole year round, realised from 8/- to 14/- per case.

Pears, mainly Winter Nelis and Josephine varieties, were fairly well supplied, and realised from 7/- to 10/- per three-quarter bushel case.

Heavy rains during the month hampered pruning operations in the vineyards.



GIBBS, BRIGHT & CO.—See Page vi

Answers to Correspondents

Cross-Pollinising Pears.

E. R. Ward, Experiment Farm, Cowra, writes:—In your June issue a correspondent asked advice re a Baron von Mueller Pear. I do not know that one, but I think the one he means is the Baron de Mello, which the Department of Agriculture, N.S.W., has growing in some of its orchards. It is a good polliniser for Packham's Triumph.

To Colour Rome Beauties.

A. W. Wallis, "Rugby Park," Fenwick, writes:—We have had trouble with getting our Rome Beauty Apples

Gravensteins in the same orchard also do not colour well.

Answer (by J. M. Ward, Superintendent of Horticulture): It is advised that (a) 1 cwt. of sulphate of potash and $\frac{1}{2}$ to $\frac{3}{4}$ cwt. of sulphate of iron per acre be applied early in winter; (b) a little summer thinning of vigorous trees, which produce a dense lateral growth, would be beneficial.

Spraying Questions.

"Dad" (Wantirna) writes:—(1) What chemical action sets up if fruit trees are sprayed with Bordeaux, then afterwards, in say, three weeks' time, with lime sulphur 1 to 20 in the pinking stage, and then followed with arsenate 1 to 20, about six times a year?

(2) Will tobacco spray be more effective with soap added?

(3) Will tobacco spray be more effective if lime is added to the mixture? Why I ask this question is that pest-end and slaked lime dusted on cabbage plants will stick and keep on killing the blight after every dew or till it is washed off.

Re Mr. Grant on pruning; I and one or two growers round me who have been at the game for years, can bear him out in every word he said. If the Government supervisors would let us know what effect the different sprays have on the fruit trees, I think we could solve the problem why our trees do not bear better, as they did in the old days. I think that if growers had to go back to the knife there would be less pruning and better crops.

Answer (by J. M. Ward, Superintendent of Horticulture): (1) The Agricultural Chemist states that "there is no detrimental chemical action when the sprays mentioned are applied at the right time." I have had experience of burning when these sprays have been applied in the growing season with an interval of 30 days between the applications.

(2) Yes, it makes it more penetrating and adhesive.

(3) I think not. Combining Pest-end and air-slaked lime would probably be beneficial.

PINEAPPLES FOR GREAT BRITAIN.

Exports of British Malayan pineapples to the United Kingdom during the month of February last amounted to 3,082.06 tons, valued at 655,850 dollars. The total exports amounted to 3,551.23 tons, valued at 750,844 dollars, or £87,598.—"Imperial Food Journal."

Brand Your Fruit Cases and Bags

with

CALDWELL'S STENCILLING INKS

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

to colour satisfactorily during the last three or four seasons, perhaps two-thirds on each tree being green and unattractive. The trees are healthy, about 25 years' old, are kept open by pruning, and receive 1 cwt. of super and bone each season. They bear light crops, caused, we think, through thrip. Can you recommend treatment to improve the colour?

(Continued from p. 303.)

in fact, the whole range of subjects of vital interest to producers. Dr. Webber is in charge, and he has a capable staff. I shall give more details later.

Riverside is noted for the excellent quality of fruit produced hereabouts, and last but not least, the place from which I am writing, the Mission Inn, is probably the most remarkable of its kind in California. The old Spanish Mission has been made into a modern hotel, retaining, however, the design, customs, relics, and "atmosphere" of the early Franciscan fathers—a charming place.

Two things are uppermost in my mind at this stage of my visit to America. There are, of course, many things of great interest to our friends in Australia and New Zealand that I have noted, and which will form the subject of articles from time to time; but right now I must mention these two: (1) Scientific research, and (2) organization.

Scientific Research.

California has grasped with both hands the idea of scientific research in relation to industry. So far I am writing of California, for that is as far as my travels have taken me at this stage, though I know the same to be true of the United States generally.

Every avenue of plant research is explored to assist the fruit industry—one of the major industries of California. The University of California at Berkeley—on the opposite side of the bay from San Francisco—has a large staff of highly trained experts, men of world-wide fame, who devote their whole time to the subjects in which they have specialized. Experiment stations are conducted at Davis, near Sacramento, and at Riverside, Southern California, where the main study is Citrus culture, although Walnuts, Peaches, Avocados, and other fruits are investigated.

Experts are also sent abroad to search for beneficial parasites. Considerable success has attended this enterprise.

The Riverside Experiment Station—a branch of the University of California—was started because of controllable Citrus diseases having been discovered in South California, which needed scientific investigation. The late Mr. G. Harold Prell, then General Manager of the California Fruitgrowers' Exchange, was one of the most active men in placing before the Government the national urgency for establishing a Citrus experiment station in Southern California to study the special conditions peculiar to that part of the State. The appropriation was voted by the Government, and the land was secured in 1913. Although the work has only been in active operation since 1917, some remarkable results have been achieved, and tests

are now in progress, which promise to yield information of inestimable value to the industry. Already the work on Citrus stocks and bud selection has pointed the way to securing larger fruit yields, and similar investigational work is proceeding here and in other scientific study centres regarding Apples, Pears, Peaches, and other commercial fruits.

"The fruit tree nursery industry is being revolutionised," states Dr. Webber. "We must no longer work by rule of thumb, but on definite practical scientific lines."

I had the pleasure of being shown over the various field activities at Riverside by Dr. Webber, and one can only express hearty admiration for the thorough manner in which the whole enterprise is conducted. The work includes major studies not only in stocks and bud selection, but also in manuring, cultivation, pruning, and pest control. Entomology, plant pathology, and biological control through parasites are capably dealt with.

Another splendid enterprise conducted by the University of California is its extension work in relation to Farm Bureaux. California is divided into over 50 counties, and in each county where the need exists, a trained man—termed a "farm adviser"—is appointed to study the local conditions in co-operation with the growers, to work out local problems, and to report on scientific investigations to the University. Farm Bureaux or local associations of producers are organised, the farm adviser acting as secretary, organiser, or in any other desired capacity. These local Associations may, if they so wish, join as units into larger groups, county-wide or State-wide, and deal with local, national, or political matters according to the dominant needs, and without any reference to the University.

In other words, the University, through its farm advisers, helps to form local associations of growers, and having done that, leaves the organisations free to function and carry resolutions as they see fit. The meetings are kept bright by the attendance of lecturers.

This is in some measure comparable to the Agricultural Bureau system operation in New South Wales and South Australia. It is of the utmost service that an independent salaried officer can do the organising, and not, as in so many instances in Australia, where a local grower has to voluntarily give his limited time to organise his fellow-growers, and get more kicks than kisses.

The salary of the farm adviser in California is met by the county, the State, and the University. The University actually pays over the salary and keeps in closest effective touch with every one of its officers.

In connection with this Farm Bureau work a woman's section is maintained, a lady in each instance being en-



Fruchthof-Bremen

Fruchthandel Gesellschaft Scipio & Fischer

Fruchthof BREMEN Germany

Cable Address: "Orange" Bremen . . . Established 1902

AUSTRALIAN REPRESENTATIVES:

Victoria: The International Fruit & Mercantile Co., 410-416 Flinders Lane, Melbourne.

West Aust.: Messrs. Paterson & Co., Ltd., Perth.

South Aust.: Messrs. Geo. Selth & McRae Ltd., Adelaide.

Tasmania: Messrs. E. R. Cottier & Co., Hobart.

gaged to demonstrate in homecraft, domestic science, mothercraft, and the like.

I had the pleasure of attending a combined meeting at Rutherford, Napa County, California, in company with Mr. John E. Pickett, editor of the "Pacific Rural Press," where I showed my pictures on Australia, and was cordially received.

When commencing this letter it was in my mind to give in broad outline the general attitude toward scientific research, but I find myself going into details, and it would be impossible within the limits of this article, to give details of the scientific work being done by others.

For instance, the Department of Agriculture is doing excellent work, under the able administration of Mr. Geo. H. Hecke, a man who is esteemed throughout California, and whose work is appreciated throughout America and abroad. The Department in particular actively co-operates with the County Horticultural Commissioners.

Each county maintains a Horticultural Commissioner and a staff of from 15 to 50 inspectors (according to necessity) to carry out the work of pest control, standardisation, and the general regulatory provisions of Acts of Parliament relating to agriculture.

It was my particular pleasure to attend, as a guest of Mr. Hecke, the annual conference of the County Horticultural Commissioners, held at Visalia and Sequoia Giant Forest. I surely found a capable and earnest body of men, keen on work—in which they enjoy the confidence of the communities they serve.

I shall have other opportunities to give more details of this work. I am anxious to do so, as Australia can learn much from the very efficient system which is operating in California, where 1,900,000 acres are under fruit culture.

Research work is also carried out by the Cannery Association, several of the Fruitgrowers' Associations, and by others, though I cannot in this article deal with the full range of the work being accomplished.

Summed up, I would say (1) that the University through its organisation, attends to the scientific and plant research work; (2) the Department of Agriculture and the Horticultural Commissioners, pest control, regulatory and standardisation work. The several Chambers of Commerce, and societies supported by the business community are doing excellent statistical research.

This work pays. It pays the grower, the State, and the nation. It pays in dollars and cents. The work is basic and fundamental. It deals with major items. As opportunity offers I shall deal in greater detail with various aspects of this subject.

I would like to pay this tribute to the Americans. They freely and with cordiality give the benefit of their experience. I have been charmed with the greeting with which this representative of the land of the kangaroo has been received, and with the utmost frankness with which intimate details are given.

Now a word as regards

Organisation.

I must say right here that limitations of time and space on these pages prevent my giving in details the work of the growers' organisations. I will do so from time to time, giving specific instances. I can, however, deal with major principles.

Growers are organised into groups representing the fruits grown. There is the California Fruitgrowers' Exchange, dealing with Citrus fruits, an organisation which has been freely quoted and commended in the pages of the "Fruit World" for years past. It deals with 75 per cent. of the Citrus fruit grown in California, and is one of the models for the world in its efficiency. The basic principle is the organisation of local units into packing corporations. Growers join their local Association and erect their building for grading and packing on railway sidings.

One man smiled when I referred to this as a packing "shed," a term somewhat freely used in Australia. These

buildings are often of concrete, equipped with up-to-date machinery, often representing a capital outlay of upwards of \$50,000. A company is registered, the growers taking shares, and finance being usually arranged through a bank.

I visited the Anaheim Co-operative Association Ltd. in Southern California a few days ago. The plant was going at full pressure with Valencia Oranges. This is a "Sun-kist" organisation. Across the road we noticed the packing equipment of the Mutual Orange Distributors—proprietors of the "Pure Gold" brand—a friendly but competitive co-operative organisation.

Associations are also effective in the handling of Walnuts, Raisins, Pears, Prunes, Canning Fruits, Fresh deciduous fruits, and others.

These organisations are efficient and businesslike. The basic principle is to secure for the grower the best price for his fruit. To this end the Associations sell to the wholesale fruit trade, or the canneries, as the case may be, or send fruit on consignment for sale by private treaty or by auction.

The limits of co-operation are frankly recognised, and the place of the wholesale and retail fruit dealers is recognised. They are accepted as necessary links in the chain.

There are earnest men in Australia who favour compulsory methods and control boards, and there are others who are equally earnest in opposing these proposals. But after travelling widely in California and meeting many growers and leaders in organisation, I can only say this, that California, at least, does not desire these methods. Every grower and leader, without exception, rejects the idea, and they smile at the same time. So I asked why. "We've had our lesson," was the reply.

There are competitive co-operative organisations, and growers outside both who sell straight out to traders. All are tolerated in a spirit of friendliness. The sound co-operatives have won by merit, and are unassailable. They live by efficiency alone.

The outside "cash buyer" is welcomed by many because he provides ready money for the grower who cannot afford to wait for his returns.

The co-operatives have a far-seeing policy. They look at events for 10 and 20 years ahead. This long-sightedness and patience gives them their stability. The membership of the California Fruitgrowers' Exchange grew rapidly to 50 per cent., climbed more slowly to 75 per cent., and that gives it a commanding position in rendering service to the growers of the State.

I am bringing back with me copies of the agreements between growers and the co-operatives. They are all on the short-term basis—one year agreements.

I will shortly send details of the successful Orange shipments from Los Angeles to England and the Continent, including Scandinavia—journeys of from 28 to 44 days: 750,000 cases in one season. Surely Australia can learn the art of successful Citrus export!

Australians are remembered kindly. The returned soldiers who studied here after the war—Dr. Cameron (Director of Agriculture, Victoria), Mr. Katekar (Citrus grower of South Australia), Mr. Vagg (Griffith, N.S.W. Producers' Co-op. Association), Mr. Ward (Horticultural Superintendent, Victoria), and others.

Now Mr. Ranger, of Queensland, is expected shortly. Mr. Halliday, who has been studying at Cornell University, is to be at Riverside soon.

South Africa is diligent in sending young men here to study the latest methods of orchard practice and organisation.

Mr. Compere, a noted entomologist, is shortly leaving on an extended trip to Australia to secure parasites for Citrus pests. He will probably make his headquarters in New South Wales.

FOR SPRAYING, LIMEWASHING and DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL

Before Placing Your Order ASK A FRIEND

WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

TO TELL YOU HIS OPINION OF IT
ACTUAL USE IS THE BEST TEST

The types made include the following:—

HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS
BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED HAND POWER SPRAYER
high pressure model (220 lbs. per square inch)

CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS
POWDER BELLOWS
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS
3 H.P. MOTOR SPRAY OUTFITS

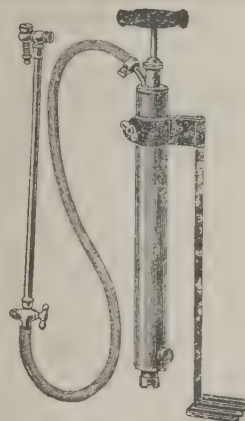
LIQUID CAPACITIES 1½ pints to 88 gallons.

PRICES FROM 2/9 to £80 each

The above types include machines for Spraying Trees, Eushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants.

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON, E.C.2.



SOUTH AFRICA'S FRUIT.

"The South African Fruit Grower" gives an interesting diagram showing South Africa's contribution to the amount of fruit consumed in the United Kingdom. The percentage of each item to the total consumption is as follows:—

Peaches, 52 per cent.; Citrus, 3.6 per cent.; Grapes, 2.6 per cent.; Pears, 2 per cent.; Plums, ½ per cent.; Apples, Apricots, Bananas, Cherries, Lemons, 0 per cent.; total, 1.1 per cent.

Continuing, the paper states:—

By comparison with Britain's consumption of fruit the figures of our contribution give great hope for the future of export.

Except in Peaches, our contribution is almost infinitesimal: in Peaches we supply one half of the consumption,—in all other fruits we scarcely contribute one-fiftieth.

The sensational advance which is within sight is in Citrus: in 1928-29 there will be in bearing 2,600,000 trees—with an estimated yield of four million cases. Yet even this prodigious increase will only carry our total contribution to Britain's Orange consumption up to something under one-fifth.

Pears, Plums and Grapes may be bracketed together as equally good in prospects for an expended business—the best prospect probably lying with the "hard" fruit (Pears). The cold-storage prospects are better with this fruit than with Grapes or Plums.

We can improve the quality of our Grapes with advantage. It is indeed a necessity for they compete overseas with hot-house grown fruit of superlatively good appearance.

In Plums we require to improve the flavor—according to a London critic our Plums are "flabby and flavorless." There is work here for the breeder: what we require is a Plum as suitable to S.A. conditions as the Jap. Plums have proved to be, but with the flavor of the Plums which Britain is accustomed to—and for the introducer of a successful Plum of the "Gage" type a fortune is waiting.

Reverting to Oranges, the estimated 4 million cases we may expect to export in 1929 will represent 18 per cent. of the U.K. total consumption—but as the winter Oranges must be excluded from this calculation we have got to find a market (in summer) for roughly two-thirds the amount which Spain and Jaffa sells to Britain in their season. That would not be difficult, except for the fact that we must sell them when Britain is eating her summer crop of fruits of excellent flavor, even if they are not of "Selected" standard.

SOUTH AFRICAN ORANGE EXPORT.

The estimates of Orange export for the season 1927 show that 900,000 cases are expected to be shipped, says the "South African Fruitgrower."

A good market is anticipated for early arrivals, but growers whose fruit is shipped on the chartered boats in June, July, and August cannot be sanguine about their prices.

The time has certainly come when a package other than the 'case' would be a useful addition to grading requirements: the standard case is no pack for Fancy Fruit, and sellers of

the best marks would like to see a single-layer tray used to open out as a real fancy pack. (The enterprising packer who endeavoured to meet this call would, of course, be gravelled by the present Regulations).

SOUTH AFRICAN APPLE GROWING.

Apple growing in South Africa is receiving more attention every year, says a writer in a South African contemporary, particularly in the high veldt of the Transvaal, which is admirably suited to the production of Apples. Elgin and Long Kloof, in the Cape, are well established Apple areas, while many parts of the Free State and Natal are most suitable for Apple growing. While South Africa has, hitherto, not been regarded as an Apple-producing country, there are distinct possibilities of exporting Apples to England profitably, provided due regard is paid to the requirements of the market, and other sources of supplies.

Classified Advertisements

Wanted and For Sale.

Prices for Advertisements under this heading are as follows:—

Casual Advertisements, one to six words, 2d. per words. Contract Advertisements, twelve months, 1½d. per word.

Y ASS DISTRICT, N.S.W. Splendid Orchard, close to rail and Canberra. For full particulars apply to T. BESNARD, Yass.

Planting the New Orchard.

Mistakes to Avoid.

By Mr. Geo. Quinn, Chief Horticultural Instructor, South Australia.

HEAVY CLAY SOILS are not the most suitable for fruit trees, but should such be used provision must be made for under drainage.

In all cases the land should be broken up thoroughly, keeping the subsoil in its natural position. In large plantations this is best done by a strong subsoil plough following in the ordinary turning plough's furrow, thus disturbing the soil to a depth of 18in. or 20in.

Soils that are saturated and boggy in winter, in spite of draining, should not be planted. Frosts are usually more severe and late in low-lying flats; consequently these should be avoided as far as practicable, and gentle undulations, or hillside slopes be chosen.

Peach, Apricot, Cherry, and all the Citrus Fruits do not thrive in cold, saturated soils, but require well-

should be planted closely together, as they will pay for the space which they occupy and give shelter as well. Barrels or sugar baskets placed around the trees are not good protectors, as they favour a weakly growth.

Ultimate dimensions

should be considered in connection with the soil and other conditions when planting, as in rich soils the trees will grow strongly and spread over a much wider area than in those of a poor quality. For the convenience of working, the trees should be planted either on the "square" or septuple systems; they also permit an even distribution of light and air between the trees.

About 20ft. apart can be taken as a suitable distance to plant Apples, Pears, Plums, Cherries, Peaches, Apricots, Oranges, and Lemons on the average soils of South Australia, but in richer soils greater spaces are necessary unless the trees are judiciously pruned. At 20ft. apart, about 108 trees can be set out on an acre; 44ft., 75 trees; and at 30ft., 48 trees. In small home gardens, where space is limited, trees may be set at 16ft., or even less, but they require accurate pruning in summer and winter to keep them within bounds.

Citrus trees

may be planted in the early autumn or early spring. These are the times when they begin to make young growth. They should be lifted as soon as the buds begin to lengthen in the axis of the leaves. If there is young growth an inch or more long nip it off. If the root system is much broken, cut back the top in proportion immediately after transplanting. Always give these trees a good soaking of water as soon as they are planted.

Deciduous trees and vines

should be set out in the autumn, as soon as the leaves will rub off easily. They then make young roots to replace the damaged ones before the soil becomes too cold.

The trees should be purchased from a reliable nurseryman, who has a reputation and trade to lose if he defrauds the purchaser in respect to the accuracy of names, stocks used, etc.

Stocks Used.

In selecting the various trees, see that the plums are worked on myrobalan stocks, not on common plum seedlings or suckers.

Pears should be on Pear seedling

stocks, and Apples should be double worked, or worked on growths from blight-proof roots not less than 6in. above the surface of the ground. The reason for this is that trees worked lower are apt, if covered by soil or mulch as high as the union, to send out adventitious roots, and thus discard the original blight-proof roots.

The Apricot is best upon Apricot roots, and Peach upon Peach; but at the same time, in very dry soils, Apricots may be put on Almond, and Peaches upon Plum stocks for very wet, cold localities; but neither can be claimed as a commercial success.

Guard Against Pests.

Every precaution against the introduction of pests should be taken, and if the trees on arrival at the orchard could be completely submerged in a strong solution of tobacco and soap mixture for a few minutes, much vermin would be avoided. Citrus trees could be treated with strong resin wash to destroy scale insects.

The nurseryman who fumigates his trees with hydrocyanic acid gas before sending them out will prevent the necessity for all this trouble.

F. W. Vear

Fruit & Vegetable Salesman

Commission Agent

WESTERN MARKET
MELBOURNE, VIC.

Highest Market Rates Assured

Prompt Settlements

In selecting trees

do not be misled by their sizes, as a medium-sized, stout, clean-barked tree is always more satisfactory than a skyscraper. A tree composed of one straight, clean stem is desirable, as then the grower can cut the stem to a suitable length and form the trunk in keeping with requirements. About "knee-high" is a good useful length to sever the stem to frame a sturdy, weight-resisting tree. This will avoid the formation of weakly forks, as the arm junctions swell with growth.

The roots of the young trees should receive attention. If the trees have been out of the soil for a few hours, pretty well all the fibrous roots will

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of
Apples, Pears, &c.,
Best market prices and prompt
account sales returned.
Correspondence invited.
Representative in Victoria

THE
International Fruit & Mercantile Co.,
410 Flinders Lane, Melbourne
MURDOCH BROS., Hobart

drained situations. Plums will withstand more moisture in the soil than any other fruits. Pears and Quinces may be said to come next, while Apples producing fruits desired for their long-keeping qualities should not be grown in very damp situations.

Windbreaks.

In nearly every locality a windbreak is necessary, and if it be at all possible a good belt of trees—not a couple of rows—should be planted; or if natural timber be present, a strip, say of two to three chains wide, should be retained on the sides exposed to cold, cutting, or hot, withering winds.

In many places the area is limited, and paling or galvanised iron fences may be put up, close to which, on the inside, rows of almonds or loquats

perish; consequently, under such conditions they should be thinned out carefully. All broken roots should be cleanly severed above the bruise, and the cut should be made beneath, or on the under side of the root.

If the trees have been out of the soil long, or look shrivelled, bury them completely in damp soil for a day or two. This revives them considerably. It is sometimes necessary to put a stake to support young, newly-planted trees, but this is not absolutely needful, and may be dispensed with in nicely-sheltered positions.

If stakes are used, care should be taken to avoid mutilating the roots when driving them down. They should be on the side of the prevailing wind.

On the whole, it may be fairly inferred that only a small proportion of the short-trunked sturdy trees of more recent plantings will require staking for the purpose of support, but a stake is at first necessary to indicate the position of the young tree when working the soil.

THE "BROWN-HEART" APPLE CASE.

Appeal Dismissed by House of Lords.

Considerable prominence has been given in English papers to the final stage of the protracted case of "brown-heart" in Apples. The final hearing of this important action took place in February last, when Messrs. F. C. Bradley and Sons Ltd., appealed against the judgment of Mr. Justice Branson in their action to recover damages from the Federal Steam Navigation Co. Ltd., in respect of 15,272 cases of Apples shipped in the "Northumberland" in April, 1921, for carriage from Hobart to London and Liverpool.

The "Imperial Food Journal" summarises the proceedings thus:—

"Mr. Justice Branson held that the damage was due to the inherent quality of the Apples themselves, and that the "Northumberland," being seaworthy, the respondents were entitled to rely upon the exception contained in Section 8 (D) of the Australian Sea Carriage of Goods Act, 1904. The Court of Appeal (Lord Justice Atkin dissenting) affirmed the judgment, and the appeal was taken to the House of Lords.

Judgment.

"Viscount Sumner, Lord Atkinson, Lord Wrenbury, Lord Carson, and Lord Blanesburgh heard the appeal, and Viscount Sumner, in moving that the appeal should be dismissed, said that the substance of the appellants' case was, shortly, this: The Apples

were good shipping Apples, suitable for the voyage in kind, in ripeness and in packing. They were damaged because they were kept during this long voyage in unventilated compartments. This was the active and exciting cause of the damage, but it was assisted by fine weather met with on the voyage. This case was rested principally on the scientific investigation before mentioned, coupled with evidence taken at Hobart of the condition of the Apples when maturing in the orchards and when gathered, sent down to Hobart and shipped.

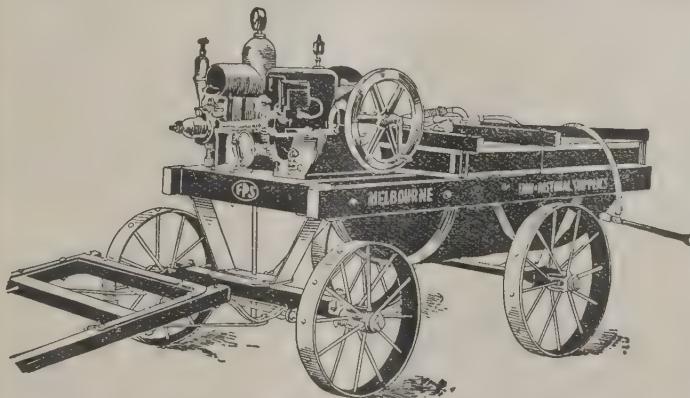
"The reply was this: The ship was in every way unexceptionable. Her refrigeration was effected by brine pipes, arranged within the refrigerated compartments themselves, and not screened off from the adjacent cargo, though not in contact with it. When the compartments were loaded, pains were deliberately taken to close all apertures. Not only was no ventilation provided for the Apples, but the intention was to prevent it, except in so far as some interchange between the atmosphere in the refrigerated chambers and that outside them was inevitable. This, which the consignees said was the guilty cause of the damage, was, in the eyes of the shipowners and their technical ad-

visers, the most beneficial mode of treatment, and quite innocuous to any ordinary Apples fit to be taken to sea at all. Mr. Justice Branson argued thus: The evidence had eliminated the operation of an excessive concentration of carbon dioxide, to which the disease of 'brown-heart' was ascribed. If the Apples did not die a natural death, some other failing must have caused it, and as they were not said to have been otherwise ill-treated on board, that failing must have been at least latent before shipment. They decayed, not because of the ship or of the sea, or of the route, but because they were Apples which were not fit to make the voyage in the ordinary way. This was the kind of risk which the Act did not call on the shipowner to bear, for he had nothing really to do with it, and it was, in his Lordship's opinion, well within the words, 'resulting from . . . inherent quality or vice.'

"Lord Atkinson, Lord Wrenbury, Lord Carson, and Lord Blanesburgh concurred, and the appeal was dismissed with costs."

Various papers stressed the importance of the decision, pointing out that if shipowners were liable for such risks, it would re-act unfavorably on freights and other conditions of export shipment.

THE NEW HERCULES SPRAYER



The Machine that has been adopted by the leading Orchardists of Victoria, and proclaimed by them to be the most efficient and reliable Orchard Sprayer obtainable. Supplied with 13, 24 or 32 h.p. HERCULES Engine, geared direct to Mettlers' Double-acting Power Pump. Built also on two-wheel transport. Write at once for particulars, or apply for a free demonstration in your own orchard.

THE FARM & PASTORAL SUPPLIES

PTY. LTD.

Machinery Merchants,

500 BOURKE STREET, MELBOURNE

The Fruit Trade

Market Reports and News Items

AUSTRALIAN FRUIT IN GREAT BRITAIN.

Liverpool (29/6/27).

The Apples shipped from Tasmania by the steamer "Themistocles" have been sold as follows:—Scarlets and Sturmers, 16/- to 18/- a case; Cleopatras, 16/- to 19/- a case.

London (2/7/27).

Tasmanian Apples ex the vessel "Cornwall" realised the following prices:—Sturmers, 14/- to 19/- a case; Cleopatras, 14/- to 18/-; Scarlets, 15/- to 17/6; Scarlet Nonpareil, 15/- to 17/-; and Crabs, 14/- to 17/6 a case.

London (6/7/27).

Sales of Australasian Apples have been made as follows:—New Zealand Apples shipped by the steamer "Port Darwin"—Sturmers, 14/- to 20/- a case; Scarlets and Nonpareils, 17/- to 19/6; Rome Beauties, 14/- to 18/6; Wolseleys, 14/6 to 17/6 a case.

Hull (6/7/27).

The "Borda" shipment of Tasmanian Apples sold at Hull—Sturmers, 15/6 to 18/6; other varieties, 15/- to 17/6 a case.

London (11/7/27).

The sales of Tasmanian Apples and Pears shipped by the steamers "Borda" and "Fordsdale" have been made as follows:—Sturmer Apples, 15/- to 18/- a case; Scarlets, 16/- to 18/-; Newtowns, 17/6 to 18/-; French Crabs, 14/- to 16/- a case. Pears.—Glou Morceau, 4/- to 6/9 a tray; Winter Nelis, 9/6 to 10/6; Vicars, 4/6 to 5/- a tray.

London (13/7/27).

Sales of Australian fruit in England have been made as follows:—Tasmanian Apples shipped by the steamers "Borda" and "Fordsdale"—Sturmers, 13/- to 18/- a case; Crabs, 13/6 to 16/-; Stones, 14/- to 14/6. "Cornwall" and "Ulysses" shipments sold at Liverpool and Manchester:—Sturmers, 15/6 to 18/-; Cleopatras 14/6 to 16/-; Crabs, 16/- to 17/6, and occasionally 18/9; Scarlets, 15/- to 16/9; Rome Beauties, 15/6 to 17/6; and Croweggs, 16/3 to 17/6 a case.

The Ferndale Shipment.

Victorian Apples which arrived in London and Hull on the "Ferndale"

sold at prices ranging from 10/- to 16/- a case. In the opinion of officers of the Department of Agriculture, the Apples were evidently not in the best condition, as the prices realised were generally lower than the quotations for sound Australian Apples. In a report received by the Department at the end of June, it was stated that the "Ferndale" shipment of 2,942 cases sold at Hull brought the following prices:—Cleopatras, 11/6 to 16/-; Munroe's Favourite, 12/- to 13/6; Jonathans, 10/- to 14/-; Five Crown, 11/- to 13/3; and Rome Beauty, 11/3 to 12/9. At London 68 cases of Cleopatra's and Munroe's Favourite were sold, the former realising 14/- to 16/-, and the latter 12/- to 13/6.

Best classes of Australian Apples, the bulk of which were West Australians, were quoted as follows:—Cleopatras, 18/-; Jonathans, 17/-; and Munroe's Favourite, 17/-.

AUSTRALIAN FRUIT IN GERMANY.

Hamburg, 19/5/27. — Messrs. Ph. Astheimer & Sohn report the sale of 36,741 cases West Australian and Tasmanian Apples and 504 cases Australian Pears ex direct steamer "Kent." The general out-turn of this cargo was satisfactory.

W.A. Apples.—Dunn's were best in condition, but owing to liberal arrivals of this variety demand for same was not as strong as in previous sales. Cleopatras were showing up fine in colour and general appearance; very little Bitter Pit could be noticed. Quite a good many lots, however, contained fruit rotten inside with brown heart. Jonathans.—Demand was very strong. The fruit was generally of very fine colour and splendid appearance, but the larger sizes very often contained a good many overripe and spongy apples, which, when breaking open turned out to be worthless.

W.A. Pears.—Arrivals were very limited, and consisted mostly of Winter Nelis and Vicars. The first-named variety was mostly disposed of at around 30/- per case, while Vicars sold according to condition from 14/- to 22/-.

Tasmanian Apples were generally lacking appearance. Cleos were mostly disposed of at around 16/-,

while Munroes realized from 14/- to 15/-. Scarlett Pearmain and various sold at around 12/- to 13/-.

Hamburg, 10/6/27.—Messrs. J. A. Lutten and Sohn report the sale of the last direct cargo from West Australia, some 26,000 cases Apples ex s.s. "Justin." Prices ruled as follows:—(Sizes 2½ to 3in.) Jonathans, 18/- to 22/-; Cleos, 17/3 to 24/3; mostly 19/6 to 22/-; Dunn's, 17/3 to 25/-, mostly 19/6 to 22/-; Sturmers, 15/- to 20/6; Stone Pippins, 14/- to 22/3; Ben Davis, 18/3 to 18/9; States, 18/6 to 20/9; Rome Beauties, 16/- to 24/3; Delicious, 18/3 to 24/-.

There was a big attendance of buyers from all parts of Germany and foreign countries. There was a strong demand, and auction closed very firm. The Apples showed very good colour, and were mostly on the ripe side, but still in good condition.

AUSTRALASIAN MARKETS.

New South Wales.

Sydney (15/7/27).

Mr. F. Chilton, City Fruit Markets, Sydney, reports:—

Queensland Fruits.—Bananas, 18/- to 35/- per case; Pines, smoothleaf, 10/- to 18/-; Ripley, 8/- to 12/-; Tomatoes (North Queensland), 3/- to 5/- per half case.

N.S.W. Fruits.—Bananas, 20/- to 35/- per case; Lemons, 5/- to 8/- per bus. case; Oranges, 5/- to 11/-; Navels, 8/- to 12/-; Mandarins, 3/- to 13/-; Thornies, 3/- to 6/- per half case; Apples, G.S., 14/- to 21/- per bus. case; Passions, 6/- to 12/- per half case.

Tasmanian Fruits.—Apples, Jon., 11/- to 16/- per bus. case; F.C., 11/- to 14/-; S.P.M., 9/- to 16/-; N.Y.P., 9/- to 16/-; S.T.P., 9/- to 13/-. Pears.—W.N., 4/- to 9/- per half case; W.C., 5/- to 9/6; Jos., 6/- to 10/-.

Victorian Fruits.—Pears, P.T., 14/- to 20/- per bus. case; B.B., 12/- to 19/-; Keiffer, 9/- to 14/-.

A fair demand exists for choice lines, but small or inferior stuff is extremely difficult to sell. An improvement is expected when a change takes place in present cold weather conditions.

Victoria.

Melbourne (20/7/27).

The following were the ruling wholesale quotations at the Western Market:—Apples—Good to choice eating, 12/- to 15/-; good to choice cooking, 12/- to 13/-; Tasmanian, 11/- to 15/-. Bananas—Queensland, special, 24/- to 28/-; choice, 20/- to 24/-; standard, 15/- to 18/-. Lemons—Victorian—8/- to 10/-. Mandarins—N.S.W., 7/- to 13/-. Oranges—Other Victorian,

10/- to 12/-; N.S.W., 9/- to 11/-.
Navel Oranges—Murray districts, Victoria, 10/- to 13/-; Murray districts, South Australia, 12/- to 14/-; Goulburn Valley, 9/- to 10/-.
Passion-fruit—Victorian, 15/- to 22/-.
Pineapples—Queens, 13/- to 16/-; roughs, 10/- to 12/-.

V.C.C.A. Market Report.

The Victorian Central Citrus Association supplies the following report of the Melbourne market for the week ending July 22:—

Supplies of all classes of citrus fruits are still on the light side. Information from New South Wales indicates a similar condition of affairs in the Sydney market. Values there have been higher than for some time past. We anticipate present values reigning for a while.

Prices:—Navel Oranges—A, district special, 10/- to 15/-; B, district special, 9/- to 14/-; C, district special, 8/- to 13/-; Standard, 1/- lower. Common Oranges—New South Wales, 7/-

13/- to 14/- per dozen lb.; Oranges, 9/- to 10/- per case; Blood, 10/-; Mandarin, 14/- to 15/-; Navel, locals, 11/- to 12/-; Navel, 12/- to 13/-; Pineapples, 24/-.
Fruit prices are without cases.

Queensland.

Brisbane (18/7/27).

Local Fruit.—Lemons, prime, 3/- to 4/-; others, 2/- to 3/-; Limes, 3/- to 4/-; Pineapples, smoothleaf, 6/- to 8/- per case, 2/- to 6/- a dozen, rough 1/- to 3/- a doz., 4/- to 5/6 per case; Passion-fruit, 4/- to 11/-; Papaws, 2/- to 7/-; Mandarins, 10/- to 20/- a case; Custard Apples, 3/- to 5/6; Oranges, 7/- to 12/-; Navel Oranges, 7/- to 15/-; Strawberries, 8/- to 16/- a dozen boxes. Imported Fruit.—Pears—K., 12/- to 17/-; W.C., 12/- to 19/-; W.N., 11/- to 17/-; B.B., 14/- to 15/-; E.B., 11/- to 14/-; Apples, F.C., 12/- to 15/-; S.P.M., 9/- to 16/-; C.E., 12/- to 13/-; N.Y.P., 15/- to 16/-; S., 10/- to 14/-; A.R.O., 10/- to 14/-; Jon., 16/- to 18/-.

Western Australia.

Perth (16/7/27).

Apples, Granny Smith, prime dumps, 9/6 to 13/-, (special 15/9), flats, 8/- to 9/6; Cleos., prime dumps, 6/- to 9/-, (special to 11/-); others from 5/-; flats, 5/6 to 7/6; Dunn's, 6/- to 9/-, (special to 10/9); others from 5/6; flats, 4/6 to 6/6; Rome Beauties, prime dumps, 6/- to 9/- (special to 11/6); others, from 4/-; flats, 4/- to 6/6; Yates, prime flats, 7/- to 11/-, (special, 14/9); others, from 4/-; flats, 3/- to 7/6; Oranges, Navels, dumps, 7/- to 10/-, (special to 12/6, and others from 6/-); flats, 5/- to 7/-; (special to 9/6, and some from 4/-); others, flats, 2/6 to 6/-; Lemons, flats, 4/- to 6/-, (special to 9/6, and others from 3/-); Mandarins, flats, 7/- to 11/-, (special to 14/3, and some from 4/-); Cape Gooseberries, 6d. to 8½d. per lb.

Tasmania.

Hobart (16/7/27).

Apples, Dem., good, 13/- to 13/4; fair, 10/8 to 12/6; medium, 9/- to 10/-; N.Y.P., good, 10/8 to 10/11; fair, 9/3 to 10/-; medium and spotty, 5/10 to 8/6; S.P.M., choice, 11/9 to 12/-; good, 10/- to 11/-; fair, 9/- to 9/9; medium, soft and spotty lots, 3/3 to 8/-; S.T.P., good, 9/6 to 10/-; fav., 8/- to 9/-; medium and marked lots, 5/- to 7/-; F.C., fair, 9/-; other spotty and inferior lots, 3/6 to 6/- per case; Jons., fair, inferior, 5/3; Pears, G.M., 8/6; B.A., small, 3/- per case.

New Zealand.

Dunedin (15/7/27).

Messrs. Reilly's Central Produce Mart Ltd., report business is very

quiet; a nice shipment of Australian Oranges, Lemons and Mandarins came forward from N.S.W., Adelaide and Victoria.

Choice Navels in gins realised 22/6; Adelaide bushels, 22/-, 23/6; choice Mandarins, in gins, special N.S.W., 21/-; Berri, in bushel cases, 25/6. Grapes, some very nice Grapes (Ohanez) reached the market in beautiful condition, and realised 24/-; others, in bad order, sold from 12/- to 21/-; Sydney smooth skinned Seviles, in gins, realised 18/6; and Berri Poormans and smooth skinned Seviles, 21/-.
Mildura Lemons realised 22/6; Sydney Lemons, 19/-; Queensland Pines, choice, 25/6; Passions, choice, 22/6 to 24/-; American Mission brand Lemons are realising to-day 45/-; and Oranges, Mission and A.N.A. Co. brand, 37/6. We have confidence in recommending consignments of Australian citrus fruits.

On July 8, prices realised were as follow:—Apples, choice wanted. Delicious, 10/6, 13/6; small, 7/-, 9/-; Jonathans, 7/-, 8/6; Cleopatra, 8/6; Sturm-

SWANN & Co.

Established 1822.

A century's experience in handling
FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention
Account Sales and Cheques despatched immediately after sale.

**3 SALTER'S HALL COURT,
London, E.C., England**

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

to 9/-; Victoria, 8/- to 12/-.
Mandarins—Best large, 13/- to 14/-; small to medium, 6/- to 10/-.
Lemons—First quality, 8/- to 10/-; small, 6/-.

South Australia.

Adelaide (16/7/27).

Report from East End Market Co.—Apples (eating), 18/- to 20/- per case; do. (cooking), 16/-; Bananas, 32/- to 34/-; Lemons, 9/-; Melons (pie), 4/- to 5/- per cwt.; Almonds, 1/- to 1/3 per lb.; Peanuts, 1/- per lb.; Walnuts, 1/2 per dozen lb.; Oranges, common, 9/- per case; Mandarins, 16/-; Navel, 12/-; do., Poorman, 9/-; Passion-fruit, 32/-; Pineapples, 16/- to 18/-.

Report from S.A. Fruitgrowers' and Market Gardeners' Association:—Apples, Jonathan, 18/- per case; Cleos., 18/-; eating, 18/-; cooking, 16/-; Lemons, 9/- to 10/-; Melons, Pie, 5/- per cwt.; Nuts (Almonds),

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

ers, 9/-, 10/6; Lord Wolseleys, 9/-; Romes, 8/6; Passions, choice, 21/-; Pines, 27/-; Bananas, ripe, 30/- smooth, Seviles, 18/6; Navels, extra choice, 22/6; Mandarins, extra choice, 21/-; Lemons, Californians, Mission brand, 42/-; Festive, 40/-; N.S.W., 20/-; Oranges, American choice Valencias, 37/6; Island Oranges, choice, 20/-; Grapefruit, 37/-; Poormans, choice, 14/6, 16/-; Australian Grapes, 16/-, 18/-.

BANANA BORER BEETLE.

Control Reward Offer Increased.

In April last the Committee of Direction in Queensland offered a reward of £2,500 for an effective scheme of treatment for the control of the Banana Weevil Borer, on certain terms and conditions. Authority has now been given under the Fruit Marketing Organisation Act to increase the reward to £5,000.

SOUTH AUSTRALIA.

Gumeracha, S.A. — The writer's spring spraying programme is confined almost exclusively to the application of Lime Sulphur for the control of the various fungoid diseases. Using a 1-in-10 strength prior to the breaking of the buds, this is reduced to the standard formula set out by the manufacturers as the spring advances. Later there comes the arsenate of lead spray for control of Codlin Moth; in this we usually follow the directions set out by the makers as regards quantities. I place a good deal of importance on the first (Calyx) spray, and in this one we usually put rather more lead, and spray until the tree is dripping. I am contemplating a little experimental work with dust instead of spray during the coming season.

Have done very little with manuring; the few experiments that have been made have so far given little in the way of definite result. I am following this up, however, as I think that before one can express a definite opinion as to the result it should be tried out for not less than four or five years. Green manuring (excepting the ploughing under of weeds, which are usually plentiful) I have not tried.

Apples, Pears, Plums are the chief fruits grown, and these have been planted in the leading export varieties of apple; "Williams" (syn. Duchess) with a few of the late keeping varieties of pear; and in Plums the principal drying and conserving varieties are to be found. Fruitgrowing cannot, perhaps, be said to be the principal industry, although it is one of them. The district is one of mixed farming, in which fruit culture plays a very large part.

August and September are chiefly occupied in cultural work on the soil, ploughing, etc. Spraying, except in a few cases where an oil spray is used, has scarcely commenced.

Last season was quite the poorest on record, so far as the orchards were concerned.

There is little to report regarding developments in the district; a few are making small additions to their plantations, but the increase of area is relatively small.—J. B. Randell, Gumeracha.

THE BERRI DISTILLERY.

Total Vintage 19,983 Tons.

The last load of Doradillos, delivered to the Berri Distillery on July 1st, brought the total of fruit received for the year to 19,983 tons.

PERSONAL.

Mr. W. R. Birks, B.Sc. (Agric.) has been appointed to the position of Principal of the Roseworthy Agricultural College, South Australia. Mr. Birks, who since 1922 has been Principal of the Dookie Agricultural College, Victoria, was educated in South Australia, and received part of his training at Roseworthy, afterwards holding positions under the Agricultural Departments of South Australia and New South Wales. Following his war service, Mr. Birks was appointed Director of the Agricultural Section of the A.I.F. Education Scheme in England, and also visited

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and economical on the market — We manufacture a complete range of Sprays for the Orchardist — including Arsenate of Lead (paste and powder), Lime Sulphur, Red Spraying Oil, Copper Soda Mixture, Benzoate Emulsion, Spray Spreader etc., etc., etc.

Prices and particulars on application to

PARSON & JAUQUES

Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

Continental countries, Canada, U.S.A., and New Zealand. His appointment is welcomed by primary producers in South Australia.

Mr. W. J. Colebatch, B.Sc., M.R.C.V.S., the immediate past Principal of the Roseworthy Agricultural College, has been appointed a member of the Irrigation Commission of South Australia.

Mr. A. J. Despeissis, a recognised authority on viticulture, horticulture, and kindred subjects, died at Wyndham, W.A., on May 5, from pneumonia. Mr. Despeissis, who was born in 1860, was appointed viticultural and horticultural expert to the Government of Western Australia in 1894. In 1907 he took up the position of Under-Secretary for Agriculture. Later he was appointed Director of Agriculture and in 1911, when four Agricultural Commissioners were appointed, he became Agricultural Commissioner for the North-West. In 1912 he was retired on pension, but was recently appointed by the W.A. Government to superintend the introduction of fodder plants into the Wyndham district.

Dr. B. T. Dickson, Ph.D., B.Sc., Professor of Plant Pathology in the McGill University, Canada, has been appointed mycologist for the Council of Scientific and Industrial Research. Professor Dickson has had wide experience, and will co-ordinate the work of the State Departments and Universities.

FIGHTING INSECT PESTS IN THE ORCHARD.

Red Spider and Bryobia Mites.

These were exceedingly plentiful last season, and their eggs are to be seen on the stems of fruit trees, especially Apples. Should the weather be warm at the end of September the eggs will hatch. Spray at once with lime sulphur. When the young hatch, use tobacco sprays. Undersides of leaves should be thoroughly sprayed.

Codlin Moth.

See "The Fruit World," July, 1927. Painted Apple Moth.

The tufted caterpillars of these moths have now made their appearance. In recent years they have become a very serious pest to the fruit spurs of fruit trees. They are easily destroyed by arsenical sprays.

Peach Aphids.

Keep a sharp lookout for Green and Black Peach Aphids. When noticed spray with nicotine sulphate or black-leaf 40. Spraying should be done as soon as the first insects are observed, and before they cause leaves to curl. When once the leaves are curled it is often a difficult matter to reach them with the spray.

Woolly Aphids.

Continue spraying with red oil and nicotine sulphate. When the young are moving about any of the tobacco

sprays will keep them in check. The Woolly Aphis parasite (*Aphelinus*) should be placed in affected orchards this month.

Scale Insects.

San Jose, Apple Mussel, Vine, Red, Black, Olive, and other scales will soon be hatching. These are easily destroyed by tobacco sprays or benzole emulsion.

Light-brown Apple Moth.

The greenish caterpillars of this moth are now becoming rather plentiful. They attack the young fruit spurs of fruit trees, and cause a fair amount of damage. It is advisable to spray with arsenate of lead.

Orange and Lemon Aphids.

During August these destructive insects are usually very plentiful on the young shoots of Oranges and Lemons. They suck the sap, causing the young shoots to turn black and die. Fortunately they are easily destroyed by the nicotine sprays.

Cherry Aphids.

These are probably one of the worst insect pests of Cherry trees. They are black in colour, and may be found around the young fruit spurs. Their eggs are bead-like, black and shining. Spray with lime sulphur, or red oil, to destroy the eggs. Spraying should be done at once.

Cutworms.

The Cutworm moths are now about,

and in a few weeks' time the caterpillars will probably be noticed on fruit trees. They attack the fruit spurs, and cause quite a lot of damage in some seasons. Should the large caterpillars be noticed, spraying with arsenate of lead should be commenced at once.

SUBSCRIBERS' PAYMENTS RECEIVED.

We acknowledge with thanks having received, at Head Office, the following renewal subscriptions from our readers from May 21st to June 30, 1927. Except where otherwise stated, the payment credits the subscriber to June, 1928. The list does not include payments to our branches and agents in the other States, nor deliveries through our wholesale distributors.

If any reader wishes to have a receipt we will forward same on application.

Australian Fruit and Produce Co., Capt. G. I. Adcock, Austral Press Assoc., W. S. Arnold, H. Andrews (June, '29), H. C. Austin, E. D. Briggs (June, '27), M. A. Boucant (May, '28), H. C. Bray (June, '27), F. Butler, R. C. Brown, Burnside & Co., Bisdee Bros., A. Boatwright (June, '29), C. Braithwaite (June, '31), W. J. Barnes, A. T. Booth, W. Le Gay Breerton (June, '29), G. H. Carlson (June, '27), Exec. late Sir Rupert Clarke (June, '27), T. Chapman, W. P. Coleman, T. J. Cooper, W. A. Cumming, G. C. Cole & Sons, J. D. Carpenter, B. Cunich, M. E. Crawford, J. Cogger, H. Carson, G. N. Dame (June, '27), J. Downham (June, '27), C. T. Dadswell, H. P. Davenport, T. Dobson & Son, Deppeler Bros., A. S. Davy, C. H. Davis (June, '27), C. Exton & Sons, W. Farrah (June, '27), V. L. Fankhauser, P. Fankhauser (June, '27), W. Francis (June, '29), A. Fry (June, '27), A. W. Fairley, E. Far-

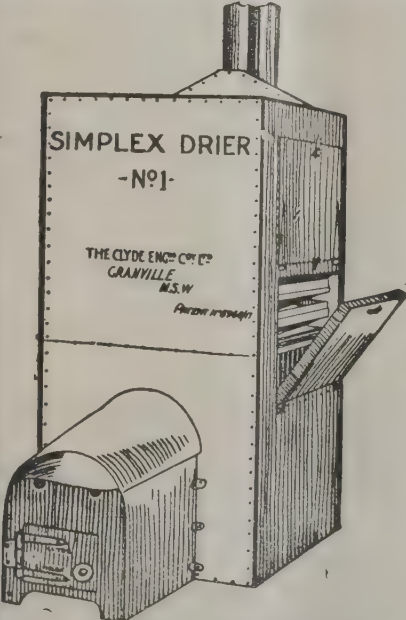
rell, W. Goldsack, H. L. Goulter, S. H. Green (June, '27), G. A. Gilmour & Sons, H. F. Greenwood, F. J. Garford, W. M. Green, J. A. Guscott (June, '27), Gollin & Co., D. Gordon, J. Gill, Murray Horne (June, '27), Wm. Howell (June, '27), Geo. Heeschen, Hammerli Bros., F. Hall (June, '27), G. L. Hardie (June, '27), Geo. Holder, A. S. Henderson, T. H. Houfe, H. H. Hawken (June, '29), R. T. Harris (June, '27), H. D. Hay (June, '29), W. Huniger (June, '27), J. Handasyde (June, '29), G. Higgins, Harveston Orchard & Poultry Farm, W. P. Hutchinsonson (June, '29), Hop Lee & Co., J. Hanenstein, G. T. Herbert, J. B. Heckley, Harris Bros., Irymple Packing Co. Pty. Ltd., E. H. Ilett (June, '29), W. H. Ikin & Co., D. W. Irish (June, '27), W. Jones, Sen. (June, '27), S. B. Jameson (June, '29), E. Jeanes, F. C. Johnson, B. Krone, J. A. Lenne, E. Livermore & Sons, A. Lenne (June, '30), P. A. Lee, F. Lloyd, L. Loveday (June, '29), Thos. Ling (June, '31), G. C. Linton, J. Lindfield, Exec. late E. Lock, G. E. Miers, E. T. Mead (June, '27), F. W. Mann, Eric G. Meggitt (June, '27), C. P. Myers, J. W. Melville, Matthews & Son, May Bros., Mildura Co-op. Fruit Co. Ltd., A. C. Monk, J. McCallum, G. S. McCarthy (June, '27), A. McCully, J. McGrath (June, '27), J. M. McKenzie, F. Norsworthy (June, '27), N.S.W. Fruitgrowers' Assoc., A. Nott, J. J. Odgers (June, '29), L. Pietsch (June, '27), P. Penn, A. L. Pitts, H. E. Pickworth (June, '27), F. G. Pescott, T. J. Peart, S. H. Palmateer, W. R. Prosser, F. T. Pullar, Prod. Markets Ltd., S. Priestley, Patterson & Co., G. Rossini (May, '27), Rosella Pres. & Mfg. Co., Alex. Ramage, D. H. Ross (Mar., '28), L. P. Rosen & Son (June, '29), E. J. Rule, F. W. Rieschick, Robinson & Son, E. Roberts (June, '29), G. Roberts, F. W. Roper (June, '29), Robinson Bros., W. J. Rees (June, '30), M. F. Ryan, W. R. A. Roberts (May, '28), S. G. Ritchie, E. Rees, Roberts & Co. Ltd., A. W. Stuart (June, '27), J. Scott, B. H. Saunders (June, '27), Shepherd & Co., G. W. Summers, J. M. Sinclair & Sons,

The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED



SIMPLEX DRIER
-No. 1-

THE CLYDE ENGINEERING CO. LTD.
GRANVILLE N.S.W.

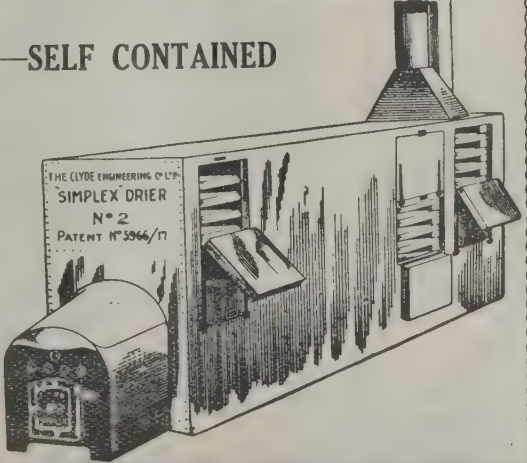
Made in Sizes to suit

Householders

Small Orchardists

... or ...

Large Factories



THE CLYDE ENGINEERING CO. LTD.
SIMPLEX DRIER
No. 2
PATENT No. 5966/17

The Clyde Engineering Co. Ltd.

GRANVILLE, N.S.W.

Cr. M. Salathiel (June, '27), J. J. Scarce, R. Serpell, H. Scarlett, R. M. Sheppard, Thos. Sutton, Shepparton Fruit Pres. Co. Ltd., L. Tittford (June, '27), J. Taylor, S. Thompson (June, '29), J. J. Tully, A. J. Todd, Tas. Orchds. & Prod. Co-op. Assoc. Ltd. (May, '28), F. Thomas, A. Thomas (June, '27), T. A. Tester, W. C. Thomas & Son, W. C. Thomas & Son (Tynong), A. J. Tilley, L. Turley (June, '29), A. H. Taylor, T. C. Wills (June, '27), A. E. Williams (May, '28), D. A. Walter (June, '27), R. V. Welch (Feb. '28), W. J. Whitten, Wm. Cooper & Nephews Pty. Ltd., W. Weddell & Co., Robt. Webb, H. Wilcox (June, '27), P. G. Wrench, J. T. Wright, S. Whitten, A. W. Wallis, D. G. Wills, Wilson & Johns, H. Wills & Co. Ltd., E. E. Wagstaff, Winklemann Bros., Young Bros. (June, '29), W. Young, Yanco Experimental Farm, P. T. Young (June, '27), H. Zellus (June, '27), R. A. Ziems, A. Zerbe (June, '27).

I wish to thank you for the valuable information gained from the "Fruit World," and may state that I was crowned with success. Wishing you every success.—H. H. Jench, Karoorda.

DUTY ON CRUDE OIL.

To the Editor "Fruit World."

Dear Sir,—

As manufacturers of chemicals used for spraying fruit trees, we wish to bring under your notice the fact that the fruitgrower in Australia is at the present time asked to pay a most outrageous tax, in a charge of 3½d. per gallon Excise duty, on fuel oil, known by the growers as crude oil. This oil has been in great demand lately for spraying.

It is only this season that they have been asked to pay this duty, although this oil has been used for spraying for a considerable number of years.

According to the Customs regulations, this oil is free of duty if used for fuel purposes, and it is therefore free of duty to the Manufacturer in the production of his various lines, if

used as fuel. Why, then, is the orchardist compelled to pay duty when he is using the oil in the production of his fruit?

It seems ridiculous that the manufacturer escapes this charge, whilst the primary producer is compelled to pay, especially as he is unable to pass these extra charges on.

As your journal is always ready to further the interests and welfare of the Fruitgrower, we would suggest that you take up the cudgels once again on their behalf in this matter. We would suggest that the various Fruitgrowers Associations should appoint delegates to form a deputation to the Minister of Customs, asking that this anomaly be rectified.

Yours faithfully,

JAQUES PTY. LTD.

Burnley, Vic., July 14, 1927.

AN ORCHARD TAX.

(To the Editor "Fruit World.")

Sir,—Quantong notes with pleasure Messrs. Pullar and Nephews's remarks in "The Age," on Tuesday, 19th July, and we, as a body, wish to endorse all said by them. Government interference in private enterprise has cost us at least £1,000 during the last three years, for which we have had no real value.

We intend to protest against the proposed orchard tax. We find, from our own experience, that all necessary organisation can be achieved if local association gives sufficient service. We therefore deprecate all force in the matter, but, at all events, we trust that before any action is taken the Government will at least give the growers who are not represented by the Victorian Fruit Council an opportunity to vote for or against the proposal.

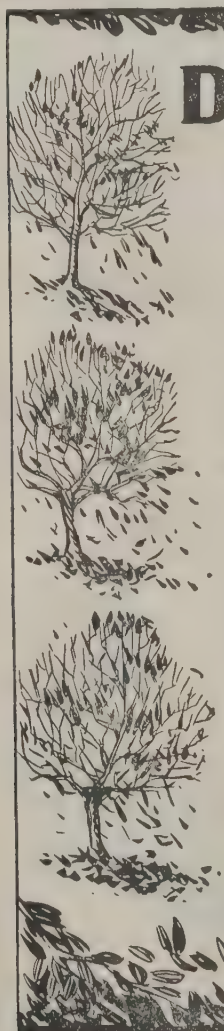
Do growers realise that a tax of 2/- an acre would mean roughly an additional £8,000 to be found by the industry?—Yours, etc.,

C. H. JOST, Manager Quantong Fruitgrowers.

Quantong, 20th July.

SHEPPARTON ORCHARD PRODUCTS CO. LTD.

At a meeting of the Shepparton Orchard Products Co. Ltd. on July 18, it was reported that the wholesale business recently opened in Melbourne for distribution of fruit to country buyers had been gratifyingly successful. A loss of £1,100 was shown on the season's trading on the Melbourne street barrows, and it was decided to discontinue this enterprise. The company's turnover for the year showed an increase of nearly £8,000.



DECIDUOUS FRUIT TREES

—those that shed their leaves—lie dormant for the Winter months. They assimilate no food, but at the approach of Spring they arouse themselves and burst into bud. Then it's time to think about ordering your

Sulphate of Ammonia

Wait for a while, until the fruit is beginning to set, and then give them their due application of sulphate. Generally speaking, the best time to apply Sulphate of Ammonia to deciduous trees is when the fruit is beginning to set. No matter what other fertilisers you use, you will improve both fruit and the trees that bore them if you use, every season, a small dressing of Sulphate of Ammonia.

"There's Money in it"

Sulphate of Ammonia information gratis from
THE METROPOLITAN GAS CO.
196 Flinders Street - - - Melbourne

SIX IMPLEMENTS IN ONE

Reversible to throw to or from the trees.

Made in various sizes. Send for particulars

ONE WAY DISC : SPRING TYNE CULTIVATOR
TWO WAY DISC : LIGHT 3 FURROW PLOUGH
CUTTING RAKE : : IRRIGATION FURROWER



LEAVES THE LAND PERFECTLY LEVEL

S I M P L E T O O P E R A T E

We Manufacture a Full Range of Special Tractor Orchard Implements

Write for Catalogue, stating either Tractor or Horse Drawn Implements

D. HARVEY, ORCHARD IMPLEMENT MAKER
BOX HILL, MELBOURNE, AUST.

SHOW ROOMS, 440 ELIZABETH STREET, MELBOURNE

AGENTS ALL STATES.



The way my hens laid was no fluke but simply due to the use of KARSWOOD

MANY things in this world are more or less a hazard. To prove anything otherwise is always a pleasing experience, particularly so if, originally there has been any degree of doubt or scepticism. In poultry keeping there are many "Doubting Thomases." These folk, however, are not so numerous as formerly. Thanks be to Karswood Poultry Spice, their numbers are gradually getting less, and the reason for this is, that, through the use of Karswood, they are finding, as did the sender of the testimonial quoted below, that there is no

fluke about hens laying after being fed with this wonderful poultry food-tonic. Karswood, among other valuable ingredients, contains dried and ground insects—the natural food for poultry. What chance has a fowl got, even on an open run, to get insects in weather like this? Give your fowls this diet, which they can't get for themselves, by feeding with Karswood, and the whole secret of a regular supply of eggs, yes, even in this westerly weather, is laid bare. One 1/- packet is enough to last 20 hens for 16 days.

Satisfied it was no Fluke.

Dear Sirs,

Since writing you I have left off using Karswood, and the falling off in egg production has been remarkable. I did it to test the Karswood to my own satisfaction, and I am quite satisfied that the way my hens laid during the winter was no fluke, but simply due to the use of Karswood.

A friend of mine only told me last night that she had scarcely had an egg all the winter out of twenty fowls. I have never, all through the winter months been without eggs. I, of course, recommended her to Karswood, and shall do so to all my friends. I think I have proved its worth this winter, when seven hens, and none of them under twelve months old, have laid six, five, and four a day through the winter. I will start to use it again. Fancy a falling off in August,

when they should be laying well. I gathered three yesterday and two to-day. I am more than pleased with Karswood Poultry Spice, and shall order some more to-day. A two shilling packet lasted me well over two months.

Yours faithfully,
(Signed) MAY ASKEY.

9 Dalhousie-street, Haberfield.

Note the Economy.

- 1/- packet supplies 20 hens for 16 days.
- 2/- packet supplies 20 hens for 32 days.
- 13/- (7 lb. tin) supplies 140 hens for 32 days.

Supplies.

Karswood Poultry Spice is obtainable at all wholesalers and stores at the following standard retail prices:— $\frac{1}{2}$ lb. packet, 1/-; 1 lb. packet, 2/-; 7 lb. tin, 13/-; 14 lb. tin, 25/-; 28 lb. tin, 48/-.



COMMON DISEASES AND PARASITES OF POULTRY.

Prevention and Treatment.

IT IS QUESTIONABLE if, on the whole, poultry suffer from more diseases than do four-footed animals, for while they are liable to diseases peculiar to themselves, they escape others occurring in the latter. And while there are many simple ailments that it will be found profitable to treat, it is a more than doubtful practice to attempt to cure any serious diseases in poultry, except in the case of a very valuable show specimen. From a commercial point of view, it is not advisable to breed from birds that have suffered from any serious disease, for they are scarcely ever profitable, even after cure. It will be found less costly to raise other healthy birds than to treat sick ones for any length of time.

This being the case, prevention and not cure is what the poultry-keeper should make special study of. As an instance of this, it may be stated that the greater number of ailments occurring among chickens are the result, not so much of disease as of the conditions under which the birds are run—that is to say, faulty brooding, overcrowding, &c., due to inexperience or bad equipment, or both.

It would be foolish, however, to under-rate the liability of poultry to diseases, especially under average poultry-farming conditions.

In attempting to treat disease of any kind the first essential is, of course, correct diagnosis. Without this we work in the dark, and medicines administered may result in more harm than good. Yet we find all sorts of chemicals administered in attempts to cure an illness that is unrecognised or undefined. The system of dosing fowls with kerosene is a case in point. A much more pernicious practice that prevails among poultry-keepers is that of putting chemicals in the food and drinking water with the idea of preventing disease. This practice is responsible for a great deal of damage to the

delicate constitutions of poultry, and is calculated to render them susceptible to troubles they might otherwise escape.

There are almost insurmountable difficulties in correct diagnosis in live subjects, because certain symptoms are present in any one of almost the whole catalogue of poultry diseases. "The bird refuses to eat; the comb turns dark; the bird has ruffled plumage, drops its wings, and stands with its head down in a listless manner." These are the outstanding symptoms of almost any disease of poultry, from the most trifling ailment to the most abstract pathological condition.

Roup or avian diphtheria, chicken pox or "warts," diarrhoea, favus (white comb), soft or sour crop, scaly legs, bumble-foot, and diseases of baby chickens are all dealt with in a fourteen-page booklet issued free to poultry-farmers by the Department of Agriculture, and from which the foregoing introduction was taken. The publication also deals with such pests as worms, lice and mites, and "suck louse," while a separate leaflet is issued on the fowl tick.

HOW CAN WE FIGURE A HEN'S VALUE?

(By O. B. Whitaker, in the "Florida Grower.")

SEVERAL years ago I was giving a teachers' examination in Missouri, using "State Questions." One of these questions was: "Other things being equal, what is the relative value of two hens, one a 100-egg hen and the other a 200-egg hen?"

As nearly as I remember about half the answers were that a 200-egg hen is worth twice as much as a 100-egg hen. The other half of the answers were various. The question has never been satisfactorily answered, yet upon the wise consideration of this question depends success in poultry raising.

What is the relative value of a 100-egg hen and a 200-egg hen? It is fairly estimated that generally in the United States a hen must lay 90 eggs a year to pay for her proper keeping. Accepting that as our basis, the 100-

egg hen would have at the end of her first laying year 10 eggs to her credit, while the 200-egg hen would have to her credit 110 eggs, and would be worth therefore 11 times as much as the 100-egg hen. But only a small part of our hens are marketed at the end of one year. So let us consider their relative value for two years.

Hens will lay 10 per cent. fewer eggs their second year. Therefore the 100-egg hen will lay 90 eggs and the 200-egg hen will lay 180 eggs the second year. The 100-egg hen will lay 190 eggs in two years, and have to her credit just 10 eggs, while the 200-egg hen will lay 380 eggs, and have to her credit 200 eggs. The 200-egg hen then, on a two years' basis is worth just 20 times as much as the 100-egg hen.

The third year a hen will lay two-thirds as many eggs as the second year. The 100-egg hen, therefore, will lay in her third year 60 eggs, while the 200-egg hen will lay 120 eggs. On a three-year basis, the 200-egg hen will have to her credit 230 eggs, while the 100-egg hen will represent a loss of the value of 20 eggs.

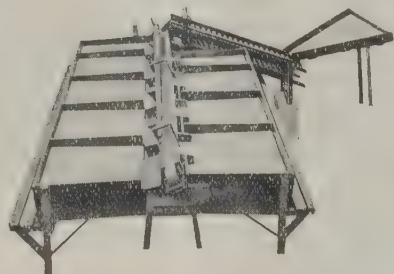
Nor is that all. The 100-egg hen lays her eggs during the spring months, when eggs are cheap. The 200-egg hen lays nearly all the year, and a large part of her eggs are laid in the winter months, while the 100-egg hen is loafing, and when eggs are worth twice as much. Therefore, the eggs laid by the 200-egg hen are worth on the average about one-half more per dozen than are the eggs laid by the 100-egg hen.

On a two years' basis (which is probably the fairest basis for estimating) the 200-egg hen is worth 30 times as much as the 100-egg hen. Then, too, the eggs from a 200-egg hen are in greater demand for hatching than are the eggs from a 100-egg hen which, except for raising meat fowls are worth more to eat than to set. The hatching eggs from a 200-egg hen are cheap at 6d. or even 1/- each, while the hatching eggs from a 100-egg hen would be dear at a gift—except for meat fowls.



"To Choose the Best is Wisdom"

Money Makers



Model 10—with Elevator Conveyor attached. Spring Floor Bins on each side of the machine. Each bin will hold up to 3 bushel cases of fruit

The reason for the use of a Fruit Grader is to make money for its owner, whether it is used for Deciduous or Citrus fruits.

The "Lightning" Products are all consistent money makers.

They are **SIMPLE, SOUND and DURABLE**, with unchallenged records of **SATISFACTORY SERVICE**.

Built in Models to successfully size **ORANGES, LEMONS, MANDARINS and ALL OTHER FRUITS**

We can supply you with interesting information about our complete up-to-date equipment for packing houses.

This includes Brushers, Driers, Automatic Weighers, etc.

Our Catalog also shows a range of 14 models of Fruit Sizers, any one of which is suitable for the grower who packs his own fruit

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

BEEES IN THE ORCHARD.

(By F. Thomas, M.A., Bunyip.)

THE QUESTION has sometimes been asked as to whether insects or man will possess the earth. It is not altogether fanciful, for the mosquito holds sway over certain marshy areas, and the tick and the tse-tse fly close parts of Africa to the settler. The orchardist has to wage ceaseless war against thrip, scale, aphides, borers, and moths, and even then is sometimes defeated. He has, however, one friend on whom he can usually rely—the honey-bee. Too often we are so busy watching our enemies that we neglect our friends, and we have yet to realise the importance of attending to the welfare of the bee.

It is now common knowledge that many varieties of fruit are self-sterile. It is said that about two-thirds of our Apples, and over half of the varieties of Pears are self-sterile. The Peach is usually self-fertile, but the Cherry is not, and self-sterility is common among Grapes and berry fruits.

Even where cross-pollination is not necessary, it is always desirable, and it is often imperative. We make provision for this by interplanting suitable varieties, or by putting one or more grafts into our trees. But is

this enough? How is the pollen from one blossom to be placed on the pistil of another?

Fertilisation by Wind.

Some orchardists think that the wind is the main agent, and work their grafts on the windward side of the tree, hoping that the prevailing winds will carry the pollen through the blossoms. Now it is true that some fruits are fertilised in this way, but in such cases the pollen is produced in large quantities, as, for instance, in the pines. The pollen in our fruit blossoms is, however, not very plentiful. If you shake a few apple blossoms over your hand, you do not get quantities of pollen as you get from the flowers of the cape-weed when treated in this way.

The value of the wind in distributing the pollen of fruit blossoms has also been tested in another way. Small slides of glass, such as are used with microscopes, have been greased with vaseline and exposed for a few days within blossoming fruit trees. On examination under the microscope little, if any, pollen has been found. We cannot, therefore, depend upon the wind. We must look to the insects, to moths, butterflies, and bees.

Some seasons moths are plentiful. The bugong moths, and certain varieties of cut-worm moths, are often very

useful. When lines are set to trap codlin moths, great numbers of these other varieties are often caught—sometimes as many as 100 in one jar in a single night. But seasons vary, and

Our main friends are the bees.

In a strong colony there may be as many as 20,000 to 30,000 workers. For a little pollen, and the nectar in the blossoms, they ensure the setting of the fruit, carrying the pollen on their hairy foreheads from flower to flower.

Would it not be worth while to make certain that this work will be done for us? We seem to take it for granted that the bees will appear. In timbered districts there are many colonies of bees in holes in the gums, and it is usually safe to depend upon them. Last year, however, in Gippsland, at any rate, there was a noticeable absence of bees. The widespread bush fires of February, 1926, must have destroyed many thousands of colonies of bush bees. Beekeepers have complained, too, that the last four years have been hard on the bees. Two abnormally dry years have followed two wet ones, and flowers in the bush have been less plentiful. The only way to be sure is to learn something of the principles of bee-keeping, and to keep our own hives in the orchard.

Bees Increase Fruit Production.

Of late a good deal of attention has been given to this matter in U.S.A. In the May number of "Wisconsin Horticulture, 1927," it is reported that in a certain Californian orchard of 180 acres of prunes, with a production of 344 tons of dried fruit in 1916, the placing of beehives in the orchard is credited with being responsible for an increase to 417 tons in 1917.

A 7-acre plot of Cherries produced 17 tons of fruit in 1918, while with ten colonies of bees added in 1920 there was a crop of 52 tons of Cherries, and of 49 tons in 1921.

An Apple orchard of 40 acres in Illinois bore 2½ barrels of Apples per tree in 1923, the best crop since 1910. Colonies of bees were placed in the orchard just before blossoming time in 1925, so that no tree was more than six trees distant from a hive. The result was a crop of 5½ barrels per tree, while other orchards near by showed no such corresponding increase.

Bees will fly from 1½ to 2 miles under good weather conditions, but on stormy days, such as we often get in October, they will not travel far, and when the wind is over 20 miles per hour there are few flights. It is considered that there should be one colony of bees to each acre of fruit, and that if hives are placed 210ft. apart, we will get the fullest advantage of whatever flights are made.

Now that growers are alive to the need for increased production, it should be worth while to employ a few more winged workers among our trees.

"EAT MORE FRUIT" CAMPAIGN FOR AUSTRALIA.

Mr. W. W. Rogers, who has obtained permission to use the posters, etc., issued by the British Fruit Trades Federation, recently arrived in Sydney, with the object of inaugurating an "Eat More Fruit" Campaign in Australia. Mr. Rogers has discussed the problems involved with the N.S.W. Fruitgrowers' Federation and N.S.W. Central Citrus Association, and he hopes to interest the fruit-growers of all the States in the campaign.

- LEMONS -

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vc.

"EAT MORE FRUIT" CAMPAIGN.

The Fruit Trades' Federation, London, has issued an interim survey of the "Eat More Fruit" advertising campaign of 1925-26. This states that despite the disastrous conditions in 1926, the prices of fruit never dropped to the level that might reasonably have been expected, mainly owing to the activities of the Federation. It is stated that "1927 is expected to see a revival of world trade and an era of greater prosperity. In this, of course, the Fruit Trades will participate in an ever-increasing degree. If present indications and predictions are realised, the Fruit Trades will sail with the ship of commerce out of the storm into the calm seas of prosperity."

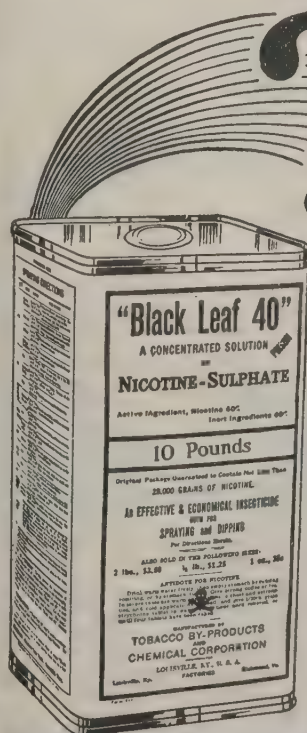
The report outlines the work that has been done in press and poster advertising, recipe service, exhibitions, window displays, etc. The Retailers' Propaganda Association has quickly developed to a membership of 15,000 of the most enterprising element of the trade, who probably control three-quarters of the fruit sales of

the country. Special attention has been given to individual fruits in season, and also to Onions. These efforts are being developed with increasing vigor, as experience and knowledge are gained from year to year.

It should be noted that this campaign applies generally to all fruit, and not only to that of Empire origin.

BURBANK'S WORK CONTINUED.

Although Luther Burbank is dead, his experiments are being carried on under a foundation controlled by Leland Stanford University. The plant wizard made the arrangements not long before his death, as he preferred to have his work continued rather than accept large sums which were offered him for his thirteen-acre farm. Thousands of the plantings are yet in the developing stage, and will require years of research before final results are known. In all, there are 53,874 plants, trees, shrubs, bushes and vegetables in the picturesque and extensive gardens.



Why be satisfied with dwarfs and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and
New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated

Louisville, Ky., U. S. A.

**Kills
Aphis**

"Black Leaf 40"

40% Nicotine

WINDBREAKS PROTECT CROPS.

Eucalypts Planted in California.

Some sections of California are occasionally visited by winds of such severity that much damage to crops results unless protective belts of trees have been planted. Some districts have been vastly improved both in crop production and comfort of living, by consistent windbreak planting. One man who has planted several hundred miles of Eucalyptus windbreaks in a very windy section, estimates that crop production on 50,000 acres in that vicinity can be increased £10 per acre per year by proper windbreak planting and management. This

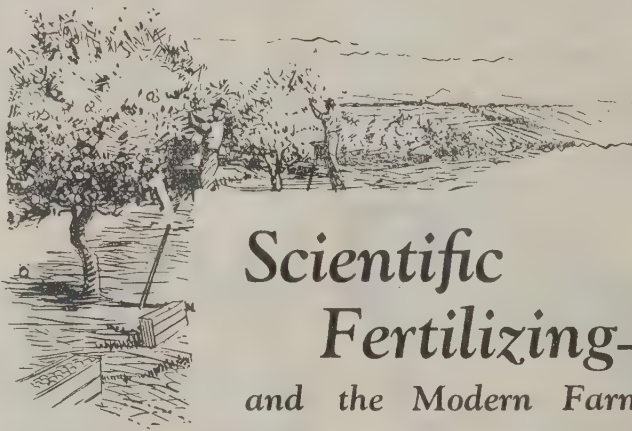
would mean an added annual revenue of half a million pounds to that part of the State after the windbreaks became established. The planting and care over a series of years would not cost more than the increase in crop value for one year, and the benefits would be permanent.

In one section in Orange County windbreaks were planted when the first Orange groves were set out and for several years gave good protection. But a windbreak must be well cared for, root pruned at intervals, fertilised and irrigated in order to prevent root competition with orchard trees, and so some of the orchardist, decided that the shelter was not worth the time and effort and about 1918

a considerable number of Eucalyptus rows were removed.

Since that time crop production has fluctuated greatly, depending on wind conditions. After a severe storm in 1921 the crop dropped to 58 per cent. of normal in 1922, and a heavy wind in 1924 resulted in a 38 per cent. crop the following year. Good crops of Oranges in 1921, 1924 and 1927 were produced because no severe winds occurred. Needless to say the orchardists are replanting the shelter belts as rapidly as possible.

Farm Advisor Wahlberg, of Orange County, has kept packing house records for 26 protected Citrus groves as against a similar number of equal size which did not have wind protection. These show over 4 per cent. less total production and 8 per cent. less quality grade fruit from the unprotected orchards, although they contain nearly 5 per cent. more trees.—Woodbridge Metcalf, in the "California Cultivator."



Scientific Fertilizing— and the Modern Farmer

That's the title of a booklet which describes the wonderful new highly concentrated Complete Fertilizer which accomplished such astounding results for so many Fruit Growers last season.

Letters from orchardists who used it last year, are coming to hand, not only telling us it is the best Fertilizer they have ever used, but assuring us of all their future business.

VICTOR PLANT FOOD

That's the name of the wonder working Fertilizer which can have so much to do with your future Fruit Growing Success.

There is a free copy of this booklet available for you. Write for your copy to-day. Find out how Science can contribute to Your Success. Learn why, by using Victor Plant Food, you are assured of better, bigger crops—and at the same time, conserve precious time—eliminate wasteful cartage—and save costly, unnecessary labour. Ask for Booklet "F." Better do it now—right away, whilst the thought is before you.

VICTOR PLANT FOOD & GARDENING Co. Pty. Ltd.
136 Dandenong Road, Caulfield
(Works at Dandenong)

SOMETHING NEW IN EGGS!

Flavoured with Orange Blossom.

Perhaps there is some member of your family who does not like eggs. Try flavouring the eggs with Orange blossoms, and you probably will have solved the problem. The story comes from Mexico of an American Orange and poultry-grower who has given his chickens a diet in which blossoms from his Orange trees formed a part. He states that the diet stimulated the production of more and better eggs and eggs having a delicate Orange blossom flavour and delightful odour.

This may prove to be Orange "publicity," but whatever its origin it is interesting and is plausible to anyone who has drunk milk, the source of which had wandered into a wild carrot field or garlic bed.—"California Citro-graph."

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

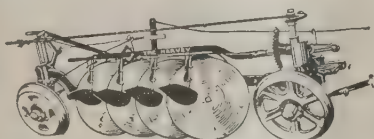
The Enormous Success of "Harvey's" Tractor Implements will again be Demonstrated at **THE ROYAL SHOW**

We specialise in the Manufacture of Agricultural Machines
and make them to suit your own particular district

It's no good buying a machine that's suitable
for Soft Clay Soil when your locality is as
hard as a rock.

We invite your correspondence, and will willingly give particulars as to the most
suitable machine for use in your Orchard.

SPECIALLY DESIGNED AND MANUFACTURED TO SUIT THE "FORDSON" AND
OTHER HIGHER POWER TRACTORS.



The Ideal Implement for Cane Field
"Harvey" 4-Furrow Power Lift Tractor
Plow (Model H.D. 4).



"Harvey" 7-Furrow Shortboard Tractor
Plow, fitted with D Steel Shares and
Circular Coulters. (Model D2).

You are Welcome
to Visit us

at the

ROYAL SHOW

Stand No.

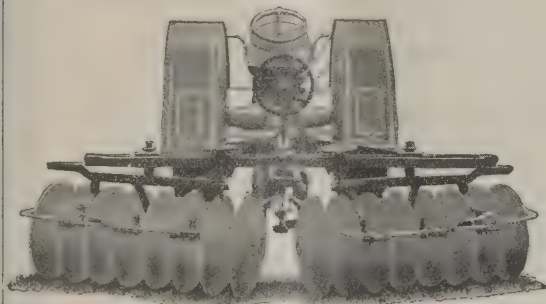
13 Plummer Avenue
opposite entrance to
Main Grand Stand



"Harvey" 7-Furrow Power Lift Tractor
Disc Plow. (Model H.D. 4).

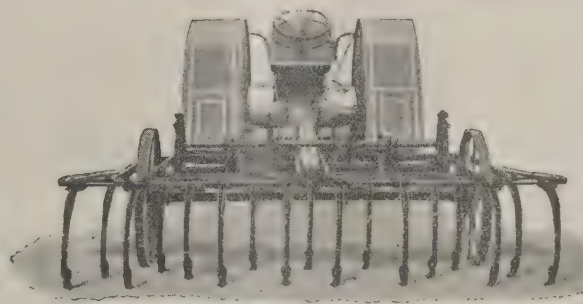


"Harvey" 4-Furrow Stump-Jump Short-
Board Tractor Plow. (Model S.J21).



"Harvey" Two-way Power-shift Reversible Disc
Cultivator for "Fordson" use.

Made in sizes from 12 to 16 plates. These can also be
had in Tandem Models, in sizes from 20 to 32 plates,
reversible if required, or can be reduced to two-way
machines.



"Harvey" Light Rigid Tyne Cultivator. Automatic Lift.

Can also be had in Spring Tyne Models. Supplied in
sizes 15-17 and 19 tynes, cutting 7 ft. 6 in., 8 ft. 6 in.,
and 9 ft. 6 in. We also manufacture heavy duty Power-
lift Rigid Tyne Cultivators. Write for illustrations.

Write for Illustrated Catalogue F

D. HARVEY, TRACTOR IMPLEMENT MAKER
BOX HILL, Melbourne, Aus.

AGENTS ALL STATES



25 to 30 Acres a day can be worked by the Fordson and reaper-binder or header, with one-man extension drive control.

Fordson Power for Busy Harvest Days

HARVEST time is always a period when the man-power of the farm is taxed to the utmost capacity. And frequently there comes the call for still more speed when threatening weather brings with it the fear that the crop will not be taken off on time.

These are just the emergencies that make the Fordson indispensable to the progressive farmer. The Fordson if necessary, will work 24 hours a day and generate its own lighting current. It does the work of six to eight horses, requires only a fraction of the time for care and attention, and is much lower in first cost and upkeep expense than the equivalent team of horses.

With a reaper-binder or header, one man by means of an extension control, operates the machine and Fordson as one unit. In this way one man, with the Fordson, can cut 25 to 30 acres a day.

Your local Ford Dealer can demonstrate the Fordson Tractor at work on your own property. Ask him for facts and figures of the Fordson's economy in every phase of farm work.

Fordson

THE UNIVERSAL TRACTOR

£180

Complete with Fenders and Pulley. F.O.B. Ford Works in this State.

Ford

ONE TON TRUCK

Complete with Standard Body, F.O.B. Ford Works in this State.

£160

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

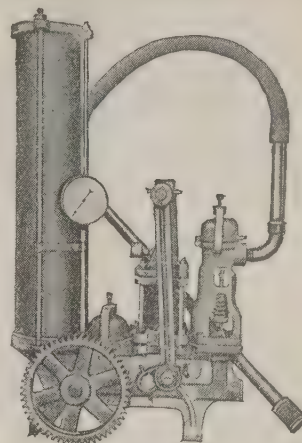
BRANCHES IN ALL STATES

More Effective Spraying

Spraying admits neither of delay nor carelessness, for upon its timely and thorough execution the season's profits depend. There is a critical time at which diseases and pests can be thoroughly controlled; if this is missed, care, labor and prodigal expense can repair the damage, but in part. The weather in spraying time is notoriously uncertain; day after day may pass during which the pumps must lie idle, for high winds make the work difficult and uncertain, whilst wet trees both reduce the effectiveness of the sprays, and often make them dangerous to young foliage and fruit.

A big factor in efficiency is the choice of the right pump.

The 604 Motor Sprayer



is the product of careful study, and many seasons' trials. It can rightly be called "Simplex," for the parts are few and all are immediately accessible. If there should be a stoppage the valves can be examined and cleaned, or the "Reversible Seats" turned in a moment.

The Porcelain Lined Cylinder gives long life; the "Patent Plungers" require no packing and can be renewed in a few minutes. The bug-bear of leaking packings is therefore non-existent. Cloggy substances in the pump can be blown out by opening the bottom cock. The "Flexible Coupled Suction" can be examined in a moment, and the gauze freed of obstruction. Thus ordinary working stoppages can be righted readily. Perhaps the worst form of annoyance to the sprayer is the blowing out of hoses, a frequent happening with ordinary motor pumps, when one of the nozzles is suddenly blocked or shut off. This is provided against in the "604" by the use of the "Release Valve"—this is not an ordinary return flow contrivance which does not prevent the repeated shocks of pumping. It is an automatic cut off, acting when the pressure reaches the set point, the valve is then lifted from its seat and the pump is temporarily out of action. Work is resumed when spraying is restarted and the pressure released.

Engine and pump are the product of mass production, and every part can quickly be replaced without the services of a skilled mechanic.

Now for the Right Sprays and the Right Ways

Let us deal with right ways first.

This knowledge is not hidden, for it is the aim of the up-to-date suppliers not only to stock the best materials, but to see that simple and complete instructions go with them. This reflection comes from a study of the booklet entitled "Spraying," issued by A. H. McDonald & Co. Pty. Ltd., of Bridge Road, Richmond, the careful perusal of which is worth your while. Many of its recommendations may seem novel—almost revolutionary—but they are all the result of severe test and painstaking research, and are given with the assurance that their observance will give the best results.

Amongst these is one which promises relief from much of the anxiety of uncertain seasons, with their minimum of suitable spraying days. It is the use of a combined spray which, in one operation will control certain insects and diseases. Thus it has been found that the best time for the first application of a fungicide to check Black Spot of the Apple, is at the moment when the cluster buds are preparing to burst. This is also the best time to spray for such insects as Red Spider, Woolly Aphis and Scales. A combined spray means, therefore, full effectiveness and a big saving of labor, for we are assured that neither of the combined sprays—"Maccol" and "C.C.S." lose any of their distinctive qualities when thus brought together. The same Dual Purpose Spray can be used on all classes of fruit trees, and on vines it takes the place of the disagreeable and severe swabbing with Sulphuric Acid and Iron Sulphate.

The McDonald Booklet Which will be Mailed Free

deals with quite a host of other vital matters, such as diseases, treatments, methods, etc.
Send for your copy.

Our Expert in Sprays and Spraying Materials is ready to advise and assist.

A. H. McDONALD & Co. Pty. Ltd.

Showrooms and Works: 570-4 Bridge Road—RICHMOND.
N.S.W. Address: 25 Clarence Street—SYDNEY.
S.A. Address: 134 Waymouth Street—ADELAIDE.

(W.McF.)

Are You
Interested in
Having Your
Shipments
Arrive in
Good
Condition

?

For Full Particulars Address

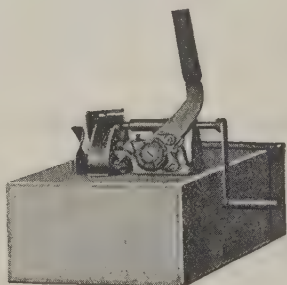
Gerrard Wire Tying Machines Co. Pty. Ltd.

FACTORY & HEAD OFFICE :

119-125 Hawke Street, West Melbourne

also

Reiby Chambers, Reiby Lane, SYDNEY, (N.S.W.)
Cr. Eagle & Charlotte Streets, BRISBANE, (Q'LAND)
Pirie Chambers, Pirie Street, ADELAIDE, (S.A.)
Southern Cross Chambers, Howard Street, PERTH, (W.A.)
Cr. Davey & Murray Street, HOBART, (TAS.)
68-70 Taranaki Street, WELLINGTON, (N.Z.)



Potash—and—Prosper!

Muriate



Sulphate

Are you wisely investing your money in fertilisers—
or “just writing cheques for manure?”

FRUIT TREES MUST HAVE POTASH
and they must have it in sufficient quantity or else
their owner may be “just writing cheques.”

You do not spray “by the acre”—you treat each tree
to a sufficient dose.

And that applies to Potash also

*We will gladly answer enquiries as to the uses of potash
here or in other fruit-growing countries of the world.*

Particulars and Prices, From

Dalgety & Company Limited

Bourke Street, Melbourne

AT SHOW TIME ..

Be Sure to See

This Modern Sprayer

at

Stand No. 44

Lennon Av., Opp. Sheep Pavilion

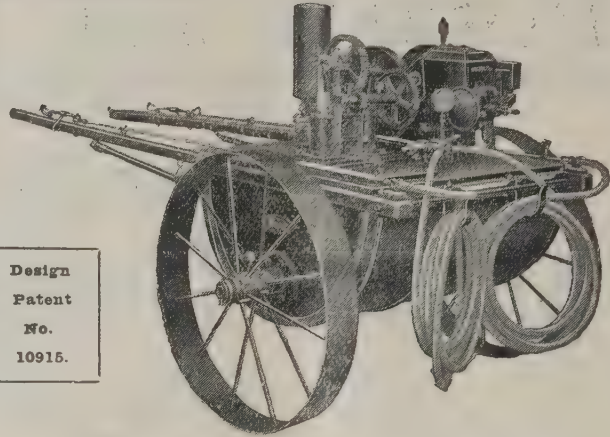
We'll gladly explain several practical advantages to be found only in the

Cooper

"PERFECT BALANCE"

POWER ORCHARD SPRAYER

Design
Patent
No.
10915.



Particulars, Prices, etc. obtainable from
Cooper Engineering Co. Ltd.

350-358 SPENCER ST., MELBOURNE
129-131 SUSSEX STREET, SYDNEY

Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

*Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented.)*

Atomol Dusts Ltd.

Manufacturers of

DUSTING MATERIAL USED AS INSECTICIDES & FUNGICIDES
ON PLANT LIFE.

DUMPHRIES PLACE
OFF GILLES STREET
ADELAIDE

Growers would be well advised to allot part of their orchards this coming season for the purpose of making a comparison between dusting and spraying. Providing that the correct dust and dusting mechanical appliances are used, we are convinced that dusting will be generally adopted for controlling all insect and fungi pests.

Atomol dusting material and Root mechanical dusting appliances combine all the essential features of successful dusting. One man with a Root Hand Dust Gun, costing only a few pounds, will cover as much ground as a power spraying machine costing £100 or over in a given time.

SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED INTERSTATE AGENTS:—

VICTORIA:—

Irymple Packing Co., Irymple.
Irymple Packing Co., Merbein.
Sarnia Packing Co., Mildura.

Humphreys & Conran, Red
Cliffs.
Mr. G. W. Hall, Box 1, Bunyip.

QUEENSLAND:—

Orchard Supply Agency, Mary-
land St., Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington St., Perth.

TASMANIA:—

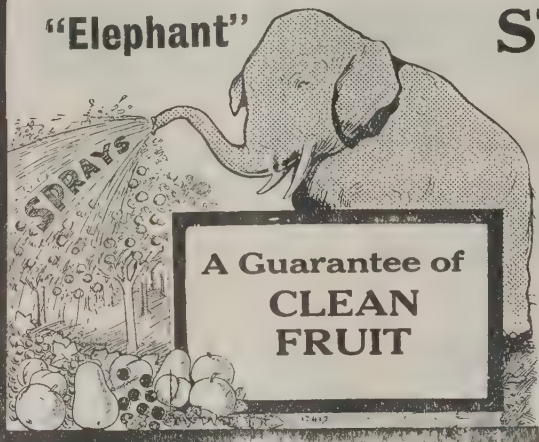
Charles Davis Ltd., 60 Eliza-
beth St., Hobart.

NEW ZEALAND:—

Harold Lightband Ltd.,
79a Lichfield St., Christ-
church.

THE ROOT HAND DUST GUN IS AN IDEAL MACHINE FOR THE APPLICATION OF
CALCIUM CYANIDE OR CYANGAS.



"Elephant"

STILL ON TOP!! ORCHARDISTS

Spraying is essential and your best Insurance—Therefore it is necessary to use only the Best Sprays obtainable.

The successful grower uses

"Elephant" Brand Sprays

ONLY

Now is the time to spray your Fruit Trees with Oil

Use **"Elephant" Brand** **Prepared Red Oil** **Prepared Crude Oil** **FOR BEST RESULTS**

Also Order Now

Bordeaux Mixture Powder

Lime Sulphur

Bluestone

Arsenate of Lead (Paste and Powder)

WRITE FOR PRICES AND PAMPHLET

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

Agents: Seedsmen, &c.

INTERSTATE AGENTS:

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR SEPTEMBER

Illustrations.	
Experimental Shipments of Grapes	349
Effect of Potash on Current Crops	353
Interior of an Up-to-date Citrus Packing House . .	363
Right Stage to Spray for Codlin Moth	372
Subjects.	
Almonds, Money in	xvi.
Answers to Correspondents	389
Apples and Pears: Overseas Marketing Act . . .	343
Breeding of Tree Fruits . .	386
British Food Research . . .	389
Bridge Grafting	xv.
California's Fruit Industry .	364
Canning Fruits	394
Citrus Notes	356-358
Cool Storage of Fruits . . .	366-367
Cool Stores Conference . . .	345-346
Dried Fruits	351-352
Dried Fruit Quotas	355
Editorial	344
Export of Fruit	363
Export of Grapes	349
Fresh Fruit Export Control Board Nominations	344
Fruit Tree Census	397
Handling of Export Fruit in South Africa	370-371
History and Development of Cool Storage of Fruit in Victoria	383-386
Insect Pests in the Orchard, Fighting	395
Markets: Australasian and Overseas Reports	390-391
New South Wales: Irrigation Areas; Agricultural Bureau Conference	362-363
New Zealand: Institute of Horticulture; Orchard Practices	395
Foultry and Beekeeping . .	399
"Pure Cussedness and Packing Pears"	400
Pruning and Fruit Production	367
Queensland: Restrictions on Import of Fruit Trees; Orchard Notes	380-381
Refrigerated Fruit Transport	377-378
Some Factors Which Determine the Set of Fruit	xvii.
South Australia: Valuable Experimental Work; District Orchard Notes . . .	373-375
Tasmania: Annual Fruit-growers' Conferences; Orchard Notes	347-349
The Life of an Apple	344-345
Victoria: Orchard Practices and Crop Reports; Pruning Fruit Trees; Apple Exports	392-393
Western Australia: Successful Orange Export; District Notes; Seasonal Work	387-388

INDEX TO ADVERTISERS.

Books, Publications— . . .	
"Garden Lover," Bank House, Bank Place, Melbourne, pp. xx, xxi.	
Budding Knives.	
L. P. Rosen & Son, Epping, N.S.W., p. xx.	
Canning Machines—	
Austral Otis Andabar Cannery Equipment Pty. Ltd., Hanna St., South Melbourne, p. 339.	
Heine, John and Son Ltd., Sydney, N.S.W., p. xix.	
Cold Storage—	
Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii.	
Dehydration—	
"Simplex," Clyde Engineering Co. Ltd., Granville, N.S.W., p. xvi.	
Dusting Machines—	
Atomol Dusts Ltd., Dumphries Place, Adelaide, p. xvii.	
"Niagara" Duster Gun, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.	
Fruit Buyers—	
Brooke, C. M., & Sons, Whiteman St., South Melbourne, p. xv.	
Fruit Tree Suppliers—	
Brunning, John, and Sons, Somerville, p. 342.	
C. A. Nobelius & Sons, Emerald, Vic., p. xvii.	
Picnic Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii.	
Two Rays Nurseries, Moorooduc, Vic., p. 338.	
Fruit Graders—	
"Lightning" Lightning Fruit Grader Co., 5 Hoddle St., Collingwood (Vic.), p. 400.	
Irrigation Machinery—	
Pone's Sprinkler and Irrigation Co., Robert St., Croydon Park, S.A., p. 361.	
Manures, Fertilisers, &c.—	
Di-Ammon-Phos, Orchard Fertiliser, Dyes and Chemicals Ltd., 573-585 Lonsdale St., Melbourne, cover i.	
French Potash, Sulphate and Muriate, Dalgety & Co., Bourke St., Melbourne, p. 337.	
Sulphate of Ammonia, Australian Sulphate of Ammonia Propaganda Committee, 360 Collins St., Melbourne, p. 336.	
Victor Plant Foods, Victor Plant Food and Gardening Co. Pty. Ltd., 136 Dandenong Rd., Caulfield, p. xviii.	
Motor Cars and Trucks—	
Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii.	
Orchard Ploughs, Cultivators, &c.—	
D. Harvey, Box Hill, Melbourne, p. xi.	
Orchard Requisites.	
McPherson's Pty. Ltd., 582 Collins St., Melbourne (Vic.), p. 397.	
Patent Attorney.—	
Geo A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne, p. 383.	
Picking Bag.	
"Bay View," F. R. Mellor, 440 Elizabeth St., Melbourne, p. xx.	
Poultry—	
Karawood Poultry Spices, Agents all States, p. 398.	
Refrigerating Machinery—	
Werner, R., & Co. Pty. Ltd., Richmond, Vic., cover iii.	

Roller Conveyors—

Schumacher Mill Furnishing Works Pty. Ltd., Port Melbourne, p. xxiv.

Spray and Dusting Material—

"Arsinette," Wm. Cooper & Nephews Ltd., 4 O'Connell St., Sydney, p. x.

"Blue Bell" Arsenate of Lead, 31 Queen St., Melbourne, Vic., p. iii.

"Black Leaf 40," Tobacco By-Products and Chemical Corp. Inc., Louisville, Ky., U.S.A., p. xv.

"Carlton" Arsenate of Lead, Walter Voss & Co., Milwall, London, E.14, p. xviii.

"Cloudform" Dusts, Gibbs, Bright & Co., 27 Grenfell St., Adelaide, p. vi.

"Electro" Arsenate of Lead, Agents all States, p. xxv.

"Elephant" Brand, Jaques Pty. Ltd., Madden Grove, Burnley, Vic., p. 340.

"Swift's" Arsenate of Lead, H. W. Peahody & Co., Sydney and Melbourne, p. viii.

Dusting Powders, Atomol Dusts Ltd., Dumphries Place, Adelaide, p. 339.

"Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.

"Black Leaf 40," Producers' Distributing Soc. Ltd., Melbourne, p. iv.

Berger's Arsenate of Lead, Neptune Oil Co. Ltd., River St., Richmond Vic., p. xxii.

Schloesing's Ready-made Bordeaux, Lawford's Fruit Exchange, Doncaster, Vic., p. 391.

"Yarra" Fruit Sprays, Parsons & Jaques, 6 Patterson St., Abbotsford, Vic., p. 375.

Spray Pumps and Guns—

Alumino-Thermic and Metal Sprayers Ltd., 247 George St., Sydney, N.S.W., p. iv.

"Bave-U" Power Sprayer, Russell & Co., Box Hill, p. 368.

"Bave-U" Power Sprayers, N.S.W. Agent, E. Robinson, 333 George St., Sydney, p. 395.

"Cooper," Cooper Engineering Co. Ltd., 129 Sussex St., Sydney and 350 Spencer St., Melbourne, p. 338.

"New Hercules" Sprayer, Farm and Pastoral Supplies Pty. Ltd., 500 Bourke St., Melbourne, p. xvii.

"Rosebery" Spray Pump, A.H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xiii.

Spray Pumps, etc., Cooper Pegler & Co. Ltd., 24d, Christopher St., London, E.C.2, p. 388.

Ronaldson-Tippett Spraying Plant, Ronaldson Bros. & Tippett Pty. Ltd., Ballarat, p. xix.

Strapping Fruit Cases—

Gerrard Wire Tying Machines Co. Pty. Ltd., 119-125 Hawke St., West Melbourne, p. xiv.

"Griplock," Wire Strapping, Jas. Henty & Co., 499 Lit. Collins St., Melbourne, p. ix.

Stencilling Inks—

Caldwell's Pty. Ltd., Yarra Bank Rd., South Melbourne, p. 387.

Transport—

London and N. E. Railway, Burns, Philp & Co., agents, p. xxiii.

Tree and Stump Pullers—

Trewhella Bros., Trantham, Victoria, Stumping Jacks, etc., p. ix.

"Digger," Quick Manufacturing Co., 75 Pender St., Thornbury, p. xi.

Remember !

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the BEST, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 5/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States.

Changes of copy for advertisements must be in our hands on or before the 12th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

HEAD OFFICE:

**Bank House, Bank Place,
Melbourne, Victoria**

Representatives in all States and New Zealand.

British Office: Harvey, H. Mason, 1 Mitre Court, Fleet Street, London, E.C. England.

American Office: S. D. McFadden, Pacific Bldgs., Market Street, San Francisco, Cal., U.S.A.

R. E. BOARDMAN, A.F.I.A., A.A.I.S., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOO-BRIDGE, M.L.C.

NOTES IN BRIEF.

Promising results in the control of the Rutherglen fly have been obtained by hanging strips of honey fly-paper in the trees, says Mr. A. B. Robin, of Nuriotpa, S.A.

Valuable details for the control of the various scales affecting Citrus trees are given in our South Australian Notes.

PERSONAL.

Mr. Stanley Brentnall, of Bamawn, who has been Chairman of the Victorian Central Citrus Association since the early part of 1925, has resigned from the Executive, owing to pressure of private business. Mr. Brentnall has been identified with the V.C.C.A. since its inception in November, 1921, was a member of the first Executive, and succeeded Mr. Gerald Mussen as Chairman in February, 1925. He has taken a deep interest in the growers' co-operative movement, and devoted a great deal of his personal time to the affairs of the V.C.C.A., the directors of which have placed on record their hearty appreciation of his services.

The vacancy on the Board has been filled by Mr. Mussen (Tresco). The other members are Mr. A. W. Schwennesen, of Riverside (Chairman), and Captain Halhed, of Merbein.

FRESH FRUITS

Organisation of Overseas Marketing.

Statement by the Prime Minister.

Polling Closes September 28th.

The following statement has been issued by the Prime Minister (Mr. Bruce) regarding the poll to be taken amongst growers to determine whether the Act to effect a more orderly system of overseas marketing of Australian Apples and Pears should be brought into operation.

THIS YEAR the Commonwealth Parliament passed the Fresh Fruits Overseas Marketing Act, enabling growers to so organise the sale abroad of the surplus Australian Apple and Pear crop as to obtain the best returns, and the full benefit of the special publicity now being given to Australian products in Great Britain.

The Act will not come into operation unless the growers by a majority voting at a poll which closes on September 28 next approve of it. Growers should therefore clearly understand the provisions and aims of the Act before voting on a matter of such vital importance to them.

Australia can produce annually about 6,000,000 bushel cases of Apples valued at £2,250,000, of which 3,800,000 bushels may be profitably sold in Australia. The Australian market is likely to become unpayable unless the remainder is exported. Australia's best market for this surplus is the United Kingdom, and other European countries, particularly Germany, offer a substantial and increasing market for Australian Apples.

Export is useless unless growers derive profitable returns, and this in turn depends on an organised system of marketing which the present Australian Apple industry entirely lacks. The recent report of the Imperial Economic Committee indicates that this position must be remedied if satisfactory results are to be gained from the British market, which is systematically attacked by organised growers from Canada, America, South Africa, and New Zealand.

The Act passed by the Commonwealth makes possible a national overseas marketing organisation, and puts it in the power of growers here to regulate the export to, and sale in, overseas countries of Australian Apples and Pears.

A Board of seven members will be constituted, six elected by growers, and one, who will be a commercial man of standing and experience, appointed by the Commonwealth Government. The Board will first examine the whole marketing situation,

and draw up whatever conditions seem necessary to safeguard and improve the grower's position in relation to the export of his fruit. These conditions will be embodied in the licences issued to exporters.

The Act in no way imposes Government control on the industry, as should at once appear from the fact that the growers have six elected representatives to the Government's one nominee, and the Board acts by majority. Moreover, this majority is the only authority which can lay down the lines on which any re-organisation of the marketing is to be effected. The Commonwealth Government is definitely against Governmental interference in business, but its policy is to assist fruitgrowers and other producers to organise themselves.

The Act does not prevent f.o.b. or c.i.f. sales. On the contrary, this system of selling must continue because the great majority of growers desire it, and all candidates nominated for the Board are in favor of it. It was decided at the conference of growers' representatives from each State held in Melbourne in October, 1926: "That nothing in the Act should imply the discontinuance of f.o.b. or c.i.f. sales under licence." It has been asserted that the Act should have been so drawn as to absolutely prevent any interference with f.o.b. or c.i.f. sales. Had this been done it would have amounted to Government interference, and Parliament, at the instance of the Government, would have established a very pernicious principle by dictating to growers and making it impossible for them to deal with a system of trading which so vitally affects their industry. F.o.b. and c.i.f. sales are permitted by the Commonwealth Dairy, Dried Fruits and Canned Fruits Boards, and the Apple Growers' Board of New Zealand. It will undoubtedly be found that the Board elected under the Act now under notice, will see that entire freedom of action with regard to f.o.b. and c.i.f. sales, individual consignments and choice of agents will remain with the exporter.

The Board will have all the power necessary to bring about many much-needed economic reforms and improvements such as:—

- (a) Reductions in freight and insurance.
- (b) Effective advertising of Aus-

tralian Apples in the United Kingdom.

- (c) Improvements in packing and grading.
- (d) Stimulation of scientific research with regard to cold storage and transport.
- (e) Representation of Australian Apple Industry in the United Kingdom and other countries.
- (f) Payment of freight at the port of delivery instead of at the port of shipment as at present.
- (g) Financial assistance for the grower.
- (h) Proper distribution of Australian Apples in overseas countries, and,
- (i) Co-ordination amongst brokers and distributors in the United Kingdom.

The savings in freight and insurance effected by the Dairy, Dried Fruits and Canned Fruits Control Boards during the past two years amount to £200,000. The Fresh Fruits Board, speaking with the full authority of the Apple growers of Australia, will find shipping and insurance companies prepared to make concessions as they have already done to the other producers' organisations referred to.

For years past there has been a pressing need for the appointment in London of a representative with authority to act and speak for the Apple and Pear growers of the Commonwealth. This difficulty can be overcome by the appointment of a London representative by the Board who can act in co-ordination with brokers and distributors, and advise on all matters affecting the Australian Fresh Fruit Industry.

The Board has full power to make advances to growers or growers' organisations against any Apples or Pears that may be voluntarily placed under its control for export. It is realised that whilst private interests are at present prepared to provide practically all the finance required, the Board is also in a position to do so should the occasion arise in future.

The Board, through its London Agency, will be in a position to ascertain what steps are necessary to increase the consumption of fruit by reducing the cost of distribution from the primary wholesaler to the consumer in the United Kingdom.

The grower in Australia frequently received only 10 per cent. of the price actually paid by the consumer in the United Kingdom.

The Legislation which is now submitted for the growers' approval was passed by Parliament at the instance of the Government to insure that Australian Apples and Pears are efficiently and economically market-

ed, well advertised, and sold abroad as Australian, thus creating a demand and reputation for the fruit. It is an unique opportunity for this important primary industry to thoroughly organise itself and demonstrate that it is upon an efficient basis.

In my opinion every grower should make it his business to give the matter full consideration, and if he comes to the conclusion that orderly marketing of his fruit is desirable, he should not fail to vote in favor of the Act being put into force.

APPLES AND PEARS.

Organisation of Overseas Marketing. Nominations for Board.

The Minister for Markets and Migration (Hon. T. Paterson, M.P.) has announced that nominations for election of growers' representatives to the Fresh Fruits Overseas Marketing Board closed on August 24, and the following candidates have been nominated:—

Tasmania (2 to be Elected).

Barnett, Nathaniel Benjamin, Frank-
lin, Orchardist.
Calvert, Merton Victor, Lenah Valley,
Orchardist.
Calvert, William Henry Fairfax,
Mercer-street, New Town, Or-
chardist.
Campbell, Neil, Winkleigh, Or-
chardist.
Davies, Arthur, Cygnet, Orchardist.
Hamilton, Henry Wallace Beames,
Bagdad, Orchardist.
Parsons, Oscar Edward, "The Im-
perial," Collins-street, Hobart, ex-
Orchardist.
Piggott, John Peters, Red Chapel-
road, Sandy Bay, Hobart, Manager.
Warner, Hugh Ashton, New Norfolk,
Orchardist and Hopgrower.
Win, Frank, Cygnet, Orchardist.

Victoria (1 to be Elected).

Bailey, James William, Narre Warren,
Orchardist.
Lang, James Henry, Harcourt, Or-
chardist.
Mills, Joseph Benjamin, "Elmira,"
Beresford-street, Surrey Hills, Mer-
chant.
Parnham, Charles Jenkin, Moorabbin-
road, Mentone, Overseas Exporter
of Fresh Fruit.
Tully, John, Main-road, Doncaster,
Fruitgrower.

Western Australia (1 to be Elected).
Booth, Archibald Taylor, Hillside,
Mount Barker, Orchardist and Man-
ager.

Willmott, Francis Edward Sykes,
Applewood, Bridgetown, Orchard-
ist.

South Australia (1 to be Elected).
Randell, John Beavis, Gumeracha, Or-
chardist.

Editorial Chats



OVERSEAS FRUIT MARKETING.

THE STATEMENT published as from Mr. Bruce, the Prime Minister, virtually advocating control of the fresh fruit trade, cannot be passed without comment. It is stated that this Act will enable growers to obtain full benefit of the publicity now being given to Australian products, but it was the fresh fruit trade as at present constituted which first introduced the policy of advertising its product in the United Kingdom with thoroughly satisfactory results, and this system is in operation to-day.

It is further stated that the Act will not come into force unless the growers at a poll (which closes on the 28th September) vote for it, but it does not state that a very large number of the apple-growers in Victoria are disfranchised. Why was the vote not taken on a production basis, seeing that the prosperity of the whole industry is involved? Practically 40 per cent. of the Australian apple crop is exported, so every grower is vitally interested, and should have his say. In the Butter trade, 50 per cent. of the production is exported, yet every producer had a vote to his factory, and further, every factory had a vote on a production basis before any decision was arrived at.

A very remarkable feature of this statement is the ingenious attempt to explain why the Government which framed the Act refused to safeguard the f.o.b. trade by including the "protecting" clause which was contained in draft Bill submitted to the growers. To state that "had this been done it would have amounted to Government interference" is, to say the least of it, very ambiguous, and growers must very carefully ponder over this assertion.

The opinion of the London Trade,

as per cable of 24th August, which was published in the "Argus", is of interest in this respect:—

"A meeting of the Australian section of the National Federation of Fruit Trades' Associations discussed the Australian fruit-marketing Act. It was unanimously agreed that the Act cannot benefit fruitgrowers in Australia, as it must hamper business generally, and interfere seriously with, if not actually prevent, free on board sales, which are of great advantage to the industry."

And this opinion is confirmed by the local merchants dealing with the f.o.b. part of the trade.

The statements that "it will undoubtedly be found that the Board to be elected," etc., etc., and the various things that this as yet unelected Board will and will not do, rather indicate that the men who have been nominated will have to be "good little boys and learn their lessons," but who is to be the tutor?

It is further stated that export is useless unless growers derive profitable returns. This is as it should be, but the average returns for fruit sold in the United Kingdom under existing conditions during the present year are probably the highest yet obtained.

The goods—dried fruits, canned fruits and butter—shipped under Control Board methods, according to the producers, are not returning the cost of production.

Regarding reductions in freight and insurance, these have always been carefully watched by the trade interested, and since 1920 the freight has been reduced—by the efforts of the trade—from 8/- to 3/6 per case, which now cannot be considered high in view of the pre-war rate of 2/10½ per case.

N.S.W. and Queensland (1 to be Elected).

Case, Norton Hervey, 27 Canberra-
avenue, Greenwich, Retired Or-
chardist.

Ballot-papers for the election in these States where the number of candidates nominated is greater than the number required to be elected will be issued at an early date to

growers entitled to exercise a vote, and voting papers in connection with the poll to decide whether the scheme shall be brought into operation will be posted at the same time to all growers enrolled for the various States.

The closing date for both the poll and the election is the 28th September next.

Cool Storage and Fruit.

Ninth Annual Conference of Victorian Fruitgrowers' Cool Stores Association.

Good Attendance and Interesting Debates.

A REPRESENTATIVE ATTENDANCE of delegates from districts interested in fruit cool storage assembled at Croydon on August 9, to take part in the Ninth Annual Conference of the Fruitgrowers' Cool Stores Association of Victoria, the President (Mr. J. Tully) occupying the chair.

After delegates had been welcomed by Cr. H. Hughes, President of the Lilydale Shire, the annual report was read and adopted. During the year the Association affiliated with the Apple and Pear Growers' Association, and the Metropolitan Section of the Victorian Fruit Council. On account of the losses from thrip, representations to the State Treasurer and the State Savings Bank, that interest and sinking fund payments on loans by cool stores be deferred were agreed to. An effort had been made to hold a conference between engineers and secretaries of affiliated stores, but owing to insufficient support, the conference was deferred to next January.

A request was made to the Minister for Markets and Migration, that the roll of growers for use in voting on the Exports Control Bill, be compiled from growers who exported during seasons 1924-25 and 1925-26, in lieu of the past two seasons; but it was pointed out that the Act was now law, and the qualification for a vote was an export of 100 cases in either of the two seasons, 1926 or 1927.

Diamond Creek secured the Association's Shield at the last Royal Agricultural Show, out of five competitors. It is proposed in future to award the Shield to the store whose exhibit of fruit holds up best for the duration of the Show.

In accordance with the resolution of the last Conference, monthly statistics of the fruit held in store were collected and forwarded to affiliated stores. The returns for October, November and December of last year were complete, and should form a reliable basis for comparison in future. A start was made again in July of this year.

The balance sheet for the year ended June 30 was received, the balance in the bank at that date being £46/4/4.

The annual graph showing the comparative working costs of stores was presented by the Hon. Auditor, Mr. J. W. Barrett. This year the working costs on horse-power-hour basis were included, and Mr. Barrett

stated that he hoped next year to incorporate new features, such as cost of fuel per horse power, etc.

Delegates expressed hearty appreciation of Mr. Barrett's work, and it was decided that copies of the graph should be forwarded to each store.

Keen discussion was evoked by a motion by Messrs. L. G. Cole and F. Stockton (Tyabb), that the activities of the Association be extended to embrace all administrative work in connection with the fruit industry, as concerned those fruits grown by its members. It being generally admitted that organisation of the industry depended on the question of finance, further discussion was deferred until after the poll of growers shortly to be taken in regard to the proposed Orchard Tax.

Official Opening.

On arrival, the Minister for Agriculture (Hon. W. Slater), was welcomed by the Chairman. Mr. Slater, who was received with applause, said that the fact that the Association had now held nine Annual Conferences showed that the cool store movement, representing 37 affiliated cool stores throughout the length and breadth of the State, was of increasing importance in the economic position of the fruitgrowers. There was cool storage space in Victoria for approximately 1½ million cases of fruit, and it was believed that no other fruitgrowing country was so well provided as regards cool storage facilities. (Applause.) This was a very desirable position, particularly as the majority of these cool stores were financing on a co-operative basis.

There was still much to be done by organisation. The cool stores had solved the problem of glutted markets, and enabled the consumer to secure fresh fruit supplies at all times of the year. The Department of Agriculture had rightly helped the cool storage movement by making available the services of the scientific men on its staff to study the problems of cool storage. Messrs. Adam, Harrison, and Tindale, had devoted special attention to these problems. Only recently the tremendous value of cool storage for dried fruits had been discovered. Experiments undertaken by the Department during the last two years had proved that after storage for some time in the Government Cool Stores, the fruit was as fresh as when put in, and further, was quite free from grub infestation. With Oranges, experiments had

shown that they could be stored with success for as long as five months. That would mean all those advantages to the Citrus growers which had been achieved by Apple and Pear growers through cool storage.

The Association could help the Department very greatly in the matter of Apple packing classes. The success of export activities was entirely dependent on the marketable character of the commodity on overseas markets. As far as quality was concerned, Victoria could produce a sample of fruit as high as any in the world. If that high standard was maintained on the export markets, there would be no problem as far as the export portion of production was concerned.

The Minister expressed his great pleasure in declaring the Conference open, and wished the deliberations every success. (Applause.)

An adjournment was then made to the Croydon Cool Store, where the Minister, at the request of the Croydon Cool Store Trust, started the newly installed electric motor, which is replacing the suction gas plant. Delegates were much interested in this new development, which is said to be the first electrically driven plant in a fruit cool store. The whole of the machinery is made in Australia by Messrs. Parkinson Bros.

The Luncheon.

Delegates and visitors were entertained at luncheon by the Croydon Cool Stores Trust. Responding to the toast of Parliament and local Municipalities. The Minister stated that the Orchard Tax was interesting the Government at the present time, and in view of the great difference of opinion which apparently existed in the State, it had been decided to take a plebiscite of the men engaged in the industry to see if the tax should become law. This also applied to the Citrus Levy Bill. The Rural Bank was another problem that was receiving legislative consideration, and he thought there would be little difficulty in securing the general agreement of all political parties, in regard to it. (Applause.)

The Hon. W. Tyner, M.L.C., Col. G. H. Knox, M.L.A. (Member for the district), Mr. W. H. Everard, M.L.A., Cr. Hughes, President of the Lilydale Shire, and Cr. A. T. Miles, Mayor of Ringwood, also responded.

The toast of "The Visitors" was submitted by Mr. H. L. Tomkins, Chairman of the Croydon Cool Store Trust, and responded to by Dr. Franklin Kidd (Cambridge Low Temperature Research Station), Dr. W. J. Young (Council for Scientific and Industrial Research), Messrs. J. M.

Ward (Superintendent of Horticulture), J. F. Hepburn (Victorian Institute of Refrigeration), J. H. Lang (Victorian Fruit Council), and B. S. B. Cook (V.C.C.A.).

Referring to the Orchard Tax, Mr. Ward expressed the opinion that in the Cool Stores Association there was a wonderful nucleus for organization without Government compulsion. Funds could be raised by charging 1d. or 2d. per case on all fruit going into cool store. This would be better than an Orchard Tax to the growers, as they would handle the money themselves, and there would be no charge for collection. The Department of Agriculture was carrying out investigational work with a view to increasing the production per tree, particularly in regard to the quantity of manure required, and the best time to apply it.

Mr. Hepburn stated that the Victorian Institute of Refrigeration was engaged on a work of national importance, in preparing and editing a work covering the temperatures and conditions required for storing all Australian products, and he appealed to the Cool Stores Association to assist in this work.

During the afternoon valuable addresses (which are reported fully elsewhere) were delivered by Dr. F. Kidd, Dr. W. J. Young, and Mr. R. Werner, who were accorded the hearty thanks of the Conference.

It was decided that the Secretary's salary be increased by £10 per annum, to apply retrospectively to the last financial year. A motion that the Auditor be paid £4/4/- per annum was carried, but owing to Mr. Barrett's refusal to act as Auditor except in an honorary capacity, the question of payment was left open.

Monthly Fruit Statistics.

Mr. J. W. Bailey (Narre Warren), moved that the distribution of monthly fruit statistics to affiliated stores should be discontinued; he considered they were of little value, as no figures were available from other States, where considerable quantities of Apples were held in cool storage, and also, in Tasmania, in ordinary packing sheds. This view was supported by Mr. F. Moore (Blackburn), who seconded the motion.

Mr. Cole (Tyabb) considered that the figures were of very great value to the shareholders as a guide in disposing of their fruit after August and September. Mr. J. H. Lang (Harcourt), pointed out that the crux of the Apple situation late in the season was the quantity of fruit held in cool stores in Victoria. Other delegates affirmed very definitely the value of the statistics, which were not made public.

The motion was withdrawn, on the understanding that the Secretary endeavor to obtain figures from other States regarding the fruit stored.

Codlin Moth.

Mr. T. W. White (Somerville), introduced a discussion in regard to the codlin moth, and moved that the Council for Scientific and Industrial Research be asked to further investigate the question of obtaining cheaper and more satisfactory methods of codlin moth control than arsenate of lead sprays. Mr. Fankhauser (Burwood), seconded.

Mr. Lang referred to the trouble which had occurred with export fruit owing to arsenical residues, and quoted instances from America of prosecutions for excess arsenic. In that country it had been found necessary to wash the fruit in weak hydrochloric acid to remove the residue. This was an expensive and arduous process. This was not a scare that would blow over; the British Health regulation allowing not more than 1/100th of a grain of arsenic to the lb. was the settled policy of the country. No efficient substitute had been found for arsenate of lead sprays, although considerable experimental work had been done in U.S.A. It had been stated that continual arsenical spraying had a detrimental effect on the trees or on the soil. Mr. Lang quoted figures to show that with average sprayings, the soil would receive each year an amount of arsenic equal to the international food tolerance of 1/100th grain per lb. It needed scientific research to decide whether this would be cumulative from year to year, and if the insoluble arsenate would be converted by the soil acids into soluble form, with detriment to the soil bacteria.

The motion was carried unanimously, it also being urged that more attention should be given to the destruction of pests in neglected orchards.

Pre-cooling.

Mr. Bailey drew attention to an article by Dr. A. J. M. Smith, which appeared in the "Fruit World" of May 1, pointing out the startling temperature irregularities in ships' holds carrying fruit; these were largely due to uncooled fruit being loaded at each Australian port. It was admitted that pre-cooling was essential in regard to Pears; we should have reliable data in order to decide if pre-cooling was necessary for Apples, and he moved that the Government be asked to carry out experiments on a commercial scale in regard to the pre-cooling of fruit for export to the U.K. and Eroyope.

Mr. W. Lipscombe (Croydon), seconded the motion, which was carried.

It was resolved that the proceedings of the Conference should be published for distribution among shareholders of Affiliated Cool Stores.

It was decided, on the motion of Messrs. Thomas and Lipscombe, that the Secretary of each store, after consultation with the engineer, should report to the Annual Conference each year the results of any experimental work carried out at the store, or any matter connected with fruit storage likely to be of general interest to members.

After considerable discussion of the subject of dry rot in the ducts and chambers of cool stores, the matter was deferred to next meeting. Appreciation was expressed of the country press campaign for the development of rural industries.

During the evening session valuable addresses on different aspects of fruit cool storage were delivered by Mr. G. B. Tindale (Department of Agriculture), and Mr. R. C. Pidgeon, which were greatly appreciated.

Election of Officers.

The present office-bearers were re-elected for the ensuing year:—President, Mr. J. Tully, Doncaster; Vice-President, Mr. W. Mock, Burwood East; Auditor, Mr. J. W. Barrett, Ringwood; Council Member to Chamber of Agriculture, Mr. J. H. Lang, Harcourt; representative to Apple and Pear Growers' and Metropolitan Fruitgrowers' Associations, Mr. J. G. Aird, Ringwood; Secretary and Treasurer, Mr. J. G. Aird.

As no invitation was received for place of holding the next Conference, invitations are requested at the next quarterly meeting. A vote of thanks to the Chairman terminated a successful and interesting Conference.

Cool stores represented at the Conference were:—Blackburn, Bunyip, Burwood East, Croydon, Diamond Creek, Doncaster Central, East and West, Harcourt, Hastings, Mt. Waverley, Narre Warren, Orchardists, Pakenham, Red Hill, Ringwood, Somerville, Templestowe, Tyabb, Wantirna, and Private Stores (Messrs. W. Lipscombe, J. W. Bailey, C. M. Griffith, A. P. Stott, W. R. Piniger, T. E. Butler, and D. T. Lipscombe).

Other visitors whose presence was appreciated included:—Hon. A. E. Chandler, M.L.C., Mr. F. White (Victorian Trade Commissioner), Messrs. Meeking and Bainbridge (Department of Agriculture), S. H. Hardcastle (Institute of Refrigeration), W. H. Carne (Fruit Council and Apple and Pear Growers' Association), R. M. Finlay and J. Aspinall (Metropolitan Growers), J. Valentine (Mt. Dandenong), and V. R. McNab (Ardmona Preserving Co.).

Tasmania

Fruitgrower's Annual Conferences :: Orchard Notes

THE ANNUAL CONFERENCES of Tasmanian Fruitgrowers were held at Launceston on August 1 and 2, and Hobart on August 4 and 5.

Previously, one day was devoted in each centre to Conference, but owing to the large amount of business this year, a two-days' sitting was held, and good attendances were recorded at both Northern and Southern meetings.

Owing to the illness of the Minister of Agriculture (Mr. J. H. Belton), the Conferences were opened by Mr. G. G. Becker, M.H.A.. In appealing to fruitgrowers for their co-operation with the Departmental Officers, Mr. Becker explained the objects of the organisation campaign that was at present being conducted throughout the State. During the month every producing centre would be visited by the Director and Officers of the Department. Lectures on interesting horticultural and agricultural subjects would be given, a series of educative exhibits staged, and the initial work toward the formation of a chain of Agricultural Bureaux undertaken. The Chairman of the Board (Mr. Neil Campbell, M.H.A.), in moving the adoption of the annual report and statements of funds acknowledged the assistance of the members and officers of the Board, as well as the firms which had helped by collecting levies. He referred to the action of the Board in endeavoring to obtain assistance to fruitgrowers because of the stress of circumstances over which they had no control. The Commonwealth Government offered a loan of £25,000 to the State Government on condition that the Tasmanian Government provided a like amount, making £50,000. In view of the difficulties experienced in reaching that stage, the Board thought it wise to accept. A special Board was set up to deal with the 500 applications for assistance which had been received. He sincerely hoped the money would be repaid, as it might be necessary to approach the Commonwealth Government for further assistance in some future season.

In regard to mainland markets, a number of the best agents had been selected in Sydney to sell for the growers. They had formed themselves into an Association which gave some understanding between the producers and the salesmen. Every firm desirous of joining the Association had to

submit to a special bank inquiry. A similar association of agents had been formed in Brisbane, and he considered that a representative of the growers should visit Sydney and Brisbane at least once a year to attend meetings of the agents. The shipping companies had won the case in which they were sued for the faulty carriage of fruit, and, in his opinion, the position, from the point of view of the growers, was worse than ever. It appeared now that Apples were exempt from the Sea Carriage of Goods Act.

Election of Advisory Board.

At the 1926 Southern Conference, many growers voiced their disapproval of the method of election of representatives to the Board, and a resolution was carried requesting a scheme which would provide District Representation.

During the year attention was given to this matter, and a system was submitted to the Conferences for approval. This groups the State Municipalities into eight divisions (five representatives for the South and three for the North), election being carried out by means of a postal ballot.

Whilst this found favor with Southern growers, the Northern section were unanimously for retaining the present method—nomination and ballot at the Conference), and returned the same representatives—Messrs. Neil Campbell (West Tamar), E. Reed (Exeter), and J. H. Astell (Spreyton), for another term.

The position now is that the Southern representatives will continue in office until an election under the new scheme takes place.

Defence Fund.

This fund was inaugurated during the 1923 season, the Board requesting shipping agents to make a levy of 1d. per case on all consignments exported overseas to provide a fund to defend claims arising through fruit damaged in transit to the United Kingdom and Europe. Upon advice from the National Fruit Federation, London, claims were lodged on behalf of the Board in respect to certain consignments that were damaged through faulty carriage by the shipping companies.

Preliminary steps were taken in respect to these, but the Board deferred action until a final decision was made in respect to the "Northumberland" case, which is of a like nature. This

was recently finalised, the verdict being in favor of the shipping companies. After reviewing the whole position in consultation with Sir Alfred Ashbolt, and the legal advice of Mr. P. L. Griffiths, the Board felt that, although the experimental work which had been conducted was a valuable guide in the future carriage of fruit cargoes, the position had not yet been reached in which the exporter could lay down a definite system of transport. Taking this and other important factors into consideration, the members of the Board were of the opinion that the prospects of successfully contesting the claims were remote, and that it was inadvisable to make any further expenditure from this fund at this juncture.

After consideration of the Board's report in respect to this matter, both Northern and Southern Conferences agreed that the fund be invested and held in trust under the aegis of the Advisory Board until required for the purpose for which it was collected.

Fresh Fruits Marketing Act.

A very keen discussion of the provisions of this Act took place at both Conferences, opinions on the measure being divided.

Whilst the Northern Conference unanimously agreed to support the Act, there was a majority against the proposal in the South.

In order that fruitgrowers may have an opportunity of clearing up misunderstandings and also obtain information as to the proposed methods of operation, the Hon. Minister for Markets and Migration (Mr. T. S. Paterson), has accepted an invitation to visit Tasmania during September and address growers in the principal centres. At the invitation of the Advisory Board, Mr. A. C. Seabrook, M.H.R., will accompany the Minister on his tour to give his views on the Act.

Overseas Fruit Markets.

Southern Conference.

Direct Shipments.—Mr. Locke referred to the question of direct shipments. He said that it did not matter if they did not get as many ships, as long as the fruit was transported direct from Tasmania. He moved:—"That direct shipments of fruit should be made to the United Kingdom and Europe from Tasmania; that all refrigerated space should be filled here, and the co-operation of the importers and exporters sought to provide for cargo in and out to complete the loading; that a schedule of such ships be arranged to provide a reasonable time-table here and overseas, and that the Advisory Board take steps to carry this out.

Mr. E. H. Thompson said there

seemed to be an impression that some of the ships topped up with cargo in other ports after their Tasmanian cargoes had been lifted. Such instances had been rare, and were becoming still rarer.

MR. SKINNER URGED THAT TASMANIA SHOULD BE THE LAST PORT OF CALL.

The motion was agreed to.

Limitation of Markets.—On behalf of the Middleton growers, Mr. Dean moved:—"That members of Parliament, both State and Federal, be asked to support the English brokers in their efforts to bar foreign Apples and Pears being sold in the English markets during the months of April, May, and June, to enable Empire fruits to meet with a keener demand.

Mr. A. Davies seconded the motion, and said that, although the Federal Minister had been opposed to the move, it had been taken up by the Imperial Economic Conference and the English brokers.

Mr. Seabrook said that the Imperial Economic Committee had found that if an embargo were placed on American Apples, they would be landed in the open season, and cool stored until the embargo was in effect, when they could be put on the market.

The motion was agreed to.

Fruit Packing Regulations.—Mr. N. B. Barnet moved:—"That the Advisory Board be urged to request the Minister for Agriculture to include in the regulations of the Apples and Pears Act a clause instructing the Chief Inspector to submit to the press for publication the names of all fruit-growers in Tasmania whose fruit will be detained for export or market owing to non-compliance with the fruit-packing regulations, together with the nature of the contravention."

He said that a real effort should be made to standardise the industry, and this resolution would help. With true co-operation with the Agricultural Department and their Inspectors, the internal part of the industry should be improved.

Mr. M. Calvert seconded, and said he would advocate a fine for those sending away bad fruit.

Mr. P. H. Thomas, Government Fruit Expert, explained that though there were penal clauses in the Standardisation Act, they had not been exercised. With regard to the contraventions, he regretted to say that they were just now receiving a certain amount of inferior fruit. It was not the intention to prosecute growers for small contraventions, but only for dishonest packing.

The motion was carried.

Northern Conference.

Fruit Inspection.—In introducing the question of inspection, Major

Broun said that everyone realised the necessity for some improvement on the existing methods. He moved—"That inspection be extended to orchards and packing sheds as well as the wharf." The proposal had been brought up in Hobart some five years ago, he said, but had not been persevered with. He explained that the chief duties of the visiting inspectors would be to see that packing was up to specifications. Certain growers who did not pack in the proper manner would soon find themselves detected.

Mr. Campbell drew attention to the divided authority that at present existed in inspection. This he felt sure was responsible for some of the present defects.

Mr. McGowan suggested that a lot of the trouble in connection with the export of inferior fruit could be traced to the small grower who did not depend on the orchard for his living.

Mr. Thomas said that he realised there was a sad weakness in the present arrangements. He, however, held the view that a thorough inspection of all orchards would prove a long and expensive process.

Mr. Court said there were municipal inspectors now going round instructing orchardists what to do and when to do it. Some of these were not capable, and should be brought up to date.

The motion was carried without dissent.

Cases.—Mr. R. N. Smith asked whether Conference would stand behind the Department of Agriculture in its endeavor to bring about uniformity regarding the size of pine cases. There were two different sizes of pine cases used by exporters. He moved:—"That this meeting supports the Department in its endeavor to obtain the admission of the Canadian export case, which measures 18 in. by 10½ in. by 11½ in., upon the State markets."

The discussion tended towards argument upon the merits of the pine and hardwood cases, and some very forcible points were advanced on behalf of the Tasmanian product.

The motion was carried.

Organisation of Fruit Industry: Change of Constitution.—Mr. McGowan moved:—"That it is the wish of this Conference that the Advisory Board consider the introduction of a scheme of voluntary district organisation of fruitgrowers throughout the state, with a view to the election of a State Executive by local delegates assembled at an Annual Conference held alternately at Hobart and Launceston."

Mr. McGowan said that he felt that

the present method was not altogether satisfactory. If local organisations could be put into operation they would then be in a position to appoint delegates to a convention of fruitgrowers representing the entire industry. Business would be finalised at the one gathering.

Mr. Thomas said that the resolution was most opportune, for it coincided with the move on the part of the Department of Agriculture to organise primary producers on lines similar to those suggested by Mr. McGowan, through the introduction of the Bureau movement.

Mr. Campbell pointed out that it was a move in the direction of a convention instead of a conference. It would mean one meeting of delegates instead of two conferences.

The motion was carried unanimously.

Successful Conferences.

Before declaring the Conferences at an end, Mr. Campbell referred to the success of the two-days' gathering, and on behalf of the Advisory Board expressed satisfaction as to the outcome of the meeting. He concluded by offering the thanks of the Conference to the press.

SEPTEMBER ORCHARD WORK.

(By P. H. Thomas, State Fruit Expert.)

Cultivation and Manuring.—Soils which are inclined to be stiff or of a retentive nature are better treated with the disc harrow in the early stages after ploughing. In order to secure the best results it is advisable to disc two or three times the same way as the plough furrows before running at right angles or diagonally. This will assist to "pack" the surface.

The quicker acting chemical manures such as sulphate of ammonia, nitrate of soda, sulphate of muriate of potash, superphosphate, etc., are applied in the earlier stages of growth. If the soil is already brought to a tilth at this period they can be worked in by means of the disc. If otherwise, the better method is to broadcast between the rows, and plough under. Green cover crops should now be "turned in" as soon as they have reached satisfactory development. If the soil upon which they are planted is likely to be retentive it will be advisable not to take risks of a dry season and sacrifice a little growth in order that the operation may be carried out whilst the soil is in a fairly moist condition.

Reworking Fruit Trees.—This operation may be carried out during the month as long as the scions remain in the dormant state.

A good grafting wax may be made by melting together the following

materials:—3 lbs. resin, 3 lbs. beeswax, 2 lbs. mutton tallow. If a softer or harder wax is desired, the quantities of resin or tallow may be increased or decreased as necessary, the former being the hardening material.

A useful point which was omitted in last month's notes is that of sealing the tips of the scions with wax after they are in position. This prevents drying out and invariably results in a better "take."

Spraying.—As soon as the different Apple and Pear varieties reach the "green tip" or "late dormant" stage (generally during the first two weeks of September), treatment should commence for possible black spot development. This is one of the important applications, as it prevents the early infection.

Bordeaux mixture (6 lbs. bluestone, 4 lbs. lime, 40 gallons of water formula) is recommended, and can be applied to all varieties at this stage. This, following the iron sulphide (powdery mildew) spray (August), is the principal operation of the month.

Fruitgrowers should be in readiness with pump and material to commence operations as soon as the trees reach the proper stage, and the weather is suitable. Peach varieties which are likely to be attacked with aphids should be treated with nicotine sulphate, 1 pint (40 per cent. nicotine concentrate), to 50 gallons water plus 2 lbs. soft soap. This is applied as soon as the flower petals have fallen, and again when the fruits are just formed. Cherries suffering from black aphid will also require similar treatment at the same stage of growth.

Small Fruits.—Raspberries, Loganberries and other cane fruits which are attacked by anthracnose (this occurs as small round reddish brown spots in the leaves, and similar colored cankers on the main stems) should receive treatment with Bordeaux mixture, 6-4-40 formula. This is applied just as the leaves are commencing growth, "green tip" stage.

Black Currant plantations affected by the "borer" will require careful examination, and all branches infested cut out and burnt before the moths emerge from the chrysalids. Badly infested bushes are better "grubbed out" altogether. Growers who have plantations not yet affected by the pest will require to keep a close supervision of the plants received for new areas, as this is the most common form of spreading the pest.

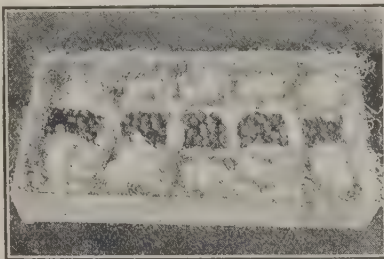
Never be afraid of asking for advice. Shy people never get on. Other people never help a shy person because they cannot guess his needs. Ask advice from everybody, and then use your own discretion.

EXPORT OF GRAPES.

America Refuses Consignment.

A parcel of Ohanez Grapes from Mildura was recently shipped to New York with the object of testing the market; but owing to a U.S. Government regulation prohibiting importations of fruit from areas where fruit fly was known to exist, the consignment was refused, and subsequently forwarded to Montreal, Canada.

Representatives of the Thurston Fruit Company and Agricultural Department agents, who inspected the Grapes, stated that they were in excellent shape, and would compare favorably with shipments from Spain and the Argentine, which had only 15 days at sea instead of 60, and even



Experimental Shipment of Grapes to U.S.A.: Single layer of bunches wrapped in sulphite tissue paper 14½ x 15 in., and woodwool.

with Californian fruit. The Thurston Company's representative considered that the Grapes were packed too tightly, and suggested lattice boxes or aerated crates as most desirable.

A recent shipment of 60 cases and 29 crates, each containing 8 cardboard cartons of Ohanez Grapes, from Merbein, Woorinen, and Shepparton, reached London in excellent condition, and averaged 15¼ per ½-bus. case, and 16/3 per crate. There was little difference in quality between those packed in cork or in sulphide paper without cork filler. The demand was good, and the Acting Agent-General reports that the prices would have been higher had the parcel been larger.

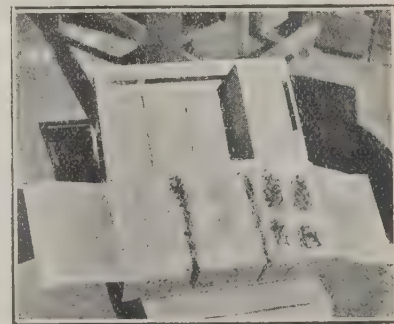


GIBBS, BRIGHT & CO.—See Page vi

WORLD'S OLDEST REFRIGERATION SOCIETY.

In view of the important part that refrigeration is playing in the life of the nation to-day, it is interesting to hear that to England belongs the distinction of having first established a national society of refrigerating interests, viz., the British Cold Storage and Ice Association, which was founded in 1900.

This institution, after over a quarter of a century of existence, has at its annual meeting this month changed its name to "The British Association of Refrigeration," as its representation of the great industry of mechanical refrigeration, and all its many applications has long extended beyond the cold stores and ice interests indicated in the old title. To the refrigerating industry of Great Britain belongs the great task of securing the fresh condition and the purity of a large proportion of the perishable food supplies of the nation which, before the institution of the amended Food Regulations were often treated with chemical preservatives.



Shepparton Grapes for London: Experimental Shipment on 8th April packed in 5lb. cardboard cartons, 8 cartons to a crate.

WEEDS DISTRIBUTED BY AEROPLANE.

The monthly bulletin of the California Department of Agriculture for April quotes an instance of an aeroplane from the San Joaquin Valley, which landed in a lucerne field outside the town of Marysville, when it was found that a flat tyre on the landing gear had a number of burrs of "puncture vine" stuck in the rubber. The field is being watched very closely for a patch of the weed.

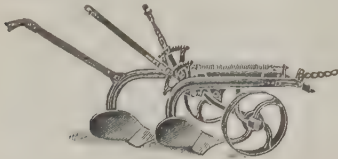
It is pointed out that such incidents should impress upon those in authority the necessity for frequent inspection of aeroplane landing grounds for weed pests.

For Orchard and Vineyard.

The "Sunshine" Royal Show Exhibit.

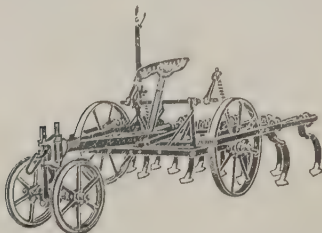
A Comprehensive Display.

ORCHARDISTS, Vignerons, and small farmers visiting the Royal Agricultural Show should not fail to inspect the wonderful exhibit of Agricultural Machinery displayed by H. V. McKay Pty. Ltd. Here will be found modern and efficient implements manufactured in Australia to meet every need of the man on the land. We cannot in this article deal with the whole display, but will detail a few of the implements that must appeal to the fruit-grower and vigneron.



The "Sunbird" Double-Furrow Mould-board Plough.

An implement specially designed for orchard use, of strong construction, and excellent design. The exceptionally high clearance ensures a complete burial of weeds or green manurial crops, whilst a double draught rack allowing of considerable adjustment, enables the plough to work close up to the trunks of trees. The soft centre mouldboards are so designed that sods are not packed down, but are placed so that air may enter and quickly rot the buried green manure.



The "Sunglow" Low Wheel Spring Tyne Cultivator, with forecarriage.

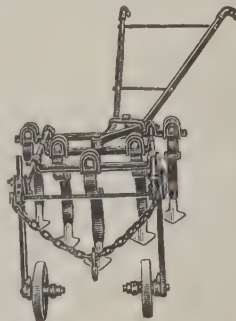
This implement is in great demand among orchardists, the forecarriage being easy on horses, and ensuring a steady, straight drive. A strong but light 2-horse Cultivator, the spring tynes, which are spaced 6 inches apart on the standard machine, thoroughly cultivate and break down the soil. The points usually supplied are 2½ inches wide, but if desired, points 1½ in., 4 in., or 5 in. wide can be fitted. The Cultivator is manufactured in

sizes—7 tynes cutting 3ft.; 9 tynes cutting 4ft. 4in.; 11 tynes cutting 5ft. 4in., and 13 tynes cutting 6ft. 4in. A similar implement with rigid tynes is also on show.



The "Sunleaf" Double-Furrow Disc Plough.

An implement that will work within 12in. of the trees when ploughing "away," and with handles set so low that when in position to work, the highest point is the seat, 2ft. 10in. from the bottom of the furrow. An orchard plough needs to be quickly handled, thus the front wheel of the "Sunleaf" may be steered independently with one lever, whilst another lever allows the front and rear wheels to be turned together. The front disc may be removed if desired, and the plough worked as a single-furrow. The discs are 23in. in diameter.



The "Sunjunior" Orchard Cultivator.

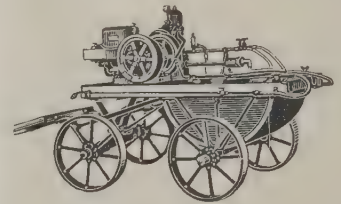
A splendid single-horse cultivator. Has 5 spring tynes, and cuts 30in. wide when equipped with 6in. points. 1½ in., 2½ in., or 4in. points may be fitted if desired. By removing the central tynes, a row of plants may be straddled and cultivated on each side. The implement is supplied with either fixed or movable handles.



The "Sunstar" Single Furrow Plough.

An old and tried favourite with the ploughman. The plough is perfectly

balanced, and the hard surfaced steel mouldboard is correctly designed to turn the sod completely over, effectively burying weed growth, and setting up a good comb. Special attention is called to the construction of the beam and foot, which are bent and forged from one piece of steel in such a manner as to make them practically unbreakable. The hitch is reversible, giving wide adjustment for draught.



The "Sunspray" Orchard and Vine Sprayer.

A most efficient spraying outfit that is giving excellent service on orchards and vineyards throughout Australia. The plant consists of the well-known "Sundex" 2 B.H.P. hopper cooled Petrol Engine and Sunshine Power Pump, mounted together on a sturdy seasoned hardwood transport, which carries a kauri vat of 100 gal. capacity. The engine drives the pump direct through machine-cut gears, and an efficient agitator is operated from the pump spindle. Two 6ft. spray rods with taps and spray nozzles, and two 30ft. lengths of hose, are supplied with the standard equipment, or alternately at customer's option, one "Sunshine" Spray Gun and one 40ft. length of hose. Some farmers use the pump for general pumping, and find it very satisfactory.

Orchardists will have no difficulty in finding the Stand, No. 82 Skene-street, where H. V. McKay Pty. Ltd. are exhibiting, for it is immediately opposite the railway entrance to the grounds. This great Australian manufacturing Company has also fine showrooms at No. 664 Bourke-street West, Melbourne, and a cordial invitation is extended to all fruit-growers to visit their huge manufacturing works at Sunshine, which is reached in a 20min. run by electric train from Spencer-street station.



Dried Fruit Department

THE APRICOT.

Treatment of Trees and Handling of Fruit.

A Successful Grower's Methods.

A useful paper on the treatment of the Apricot tree and the handling of the fruit was read by Mr. L. A. Darrington at the Conference of the River Murray branch of the Agricultural Bureau, held recently at Renmark. Mr. Darrington is well known in Renmark as a producer of heavy crops of dried Apricots of remarkably fine quality, and as a horticulturist who has achieved success with what was regarded as a difficult block.

Mr. Darrington prefaced his paper by disclaiming any purpose of posing as an expert on the Apricot. He would claim, however, to have learned something on the handling of the Apricot trees on his block. These trees, now 35 or 36 years old, were in a very neglected state when he acquired the block, eight years ago, and needed drastic treatment. The paper proceeded:—

To commence with I will deal with the pruning. I am not here to argue for or against the methods of long or short pruning. The trees three or four years before I took them over had a lot of outside secondary limbs cut away with the axe, with the result there was very little furnishing for about 6 or 7 feet from the ground, and as the trees had been unstopped for years the bulk of the fruit spurs were up very high. I pruned these trees on the advice of an old fruit-grower with the exception of a few trees that were well on the sick list. These I cut back to within 5 feet of the ground. They threw out fresh growth right from the bottom, and to-day they are as good as any trees on the block. This was proof enough to me that to refurbish these trees I had to cut them hard, and I cut from 5 to 6 feet off the tops the second year, with the result that I have gained the objects I was out for, and to-day I have well furnished trees from the ground. I have each year cut them back, so that now I

have trees that have set limbs that do not blow about with the winds, and therefore I have very few wind-falls at harvest time, as is the case with the long unstopped leaders.

Ploughing and Manuring.

As to the working and treatment of the trees after pruning, I will commence with the ploughing. I sow Peas every year. These are ploughed in in the winter, together with $3\frac{1}{2}$ cwt. of bone-dust (I might have mentioned that I put in 2 cwt. of super with the Peas), and $1\frac{1}{2}$ cwt. of bone-dust is drilled in after the first water. From this on until the second watering the land is disced and cultivated.

I believe in deep working, ploughing 8 to 9 inches, cultivating 6 to 7 inches with a set-tyne cultivator with 2 inch points in good condition. Then after the second watering I cross-plough the block, disc and cultivate straight away to keep the land from drying out, and drill in $1\frac{1}{2}$ cwt. of blood manure and $1\frac{1}{2}$ cwt. of sulphate of ammonia, making a total of $6\frac{1}{2}$ cwt. of manure, without counting the 2 cwt. of super put in with the Peas.

Summer Cultivation.

We are now getting on to the third watering on the 48 ft. land, and at this time the Apricots are beginning to ripen. I have now furrowed out for the water, and sometimes I am watering and picking at the same time, but do not neglect the cultivation at this time of the year, as with the tramping of the pickers and the summer heat, the land will soon dry out.

After the pickers have finished their job, I again cultivate the block both ways and after the fourth watering, and so on to the end of March, as by this time I find I keep the weeds down and the land is in good heart to take in the first winter rains. By this I have given what I think to be good treatment to my trees, and they are in good growing condition, show-

ing good promise of fruit spurs for next year.

The Harvesting.

First engage your pickers, and with new hands I always show them the stage of ripening at which I want them to pick, and to pick by sight, not to go round feeling this one and that. I find this a good plan, as the picker then knows what I want sent in. I pick into tins. The carters have a platform erected on the fruit cart and pick off that, placing the tins under the platform. I find this a very good method.

With the pickers set on to their part we will then go to the cutting shed. My trays are washed every season. I use 4 x 3 wooden trays, as I find them to be of the best service for handling the Apricot. The fruit is cut clean into two halves and the stone removed. I do not allow the cutters to slip the stone out, or cut the fruit half way and then tear it the rest of the way, as by these methods the look of the dried article is spoiled.

The fruit is placed on the trays evenly, with the cups upwards, so that the juice will not run out. Care should be taken not to cram too much on the trays, as by so doing the pieces of fruit stick together and dry an unsightly shape. The trays, when filled, are stacked on the truck in the shed, and when loaded with trays it is then ready for the sulphur house.

I find it a great help to have the drying ground fitted with a set of tram rails and trucks, as I can then shift 70 trays into the sulphur house and out to the green. The sulphur house I use is of cement brick, being of two rooms, but I would advise cement concrete in place of the bricks in future, as for one thing it is cheaper and could be built according to size with 3 or 4-inch walls. I always water the floor of the sulphur house, as this causes a steam to rise, it saves sulphur, and your fruit is ready to be taken out much sooner.

Sulphuring.

We now have the fruit into the sulphur house. Sulphuring plays a

big part in the successful drying of the Apricot. I am always careful not to over-sulphur. It used to be said that the fruit was sulphured sufficiently when the cups were filled, but not overflowing with juice. I aim at preventing the cups from filling. The fruit is sufficiently sulphured when the cups begin to sweat drops of juice and the skin will part from the flesh with the slightest touch of the finger. According to the weather from four to six hours is enough in the day time for the fruit to be in the sulphur house, and if a load is to be left in all night the quantity of sulphur is reduced accordingly.

I am of the opinion that much of the Apricot crop dried is left too long exposed to the sun on the drying green. From one to two and a-half days is enough, according to the weather, for the fruit to be placed straight from the sulphur house out into the sun. By this I am able to get the bright color desired. Then stack to cool off, and when still pliable remove from the trays to the sweat box, only three parts filling the sweats. The fruit should then be left for several days before carting to the shed. By this method of handling and drying I am able to produce a nice soft flexible fruit in every way attractive, and on experience of past years it will keep pliable well on into the next summer.

Whole Apricots.

Of late years I have not dried any Apricots whole, as the housewife has not yet learned to buy the stone, or I presume this to be the case, as the whole-dried fruit is, or was, almost unsaleable. I found the best method of drying whole was to place the ripe fruit (it must be ripe but not squashy) into dip tins, and dip the fruit in a caustic lye, say 2 oz. to the gallon, at a temperature of 112, quickly in and out. This prevents the blistering of the fruit when dried. Place the fruit straight away on the trays and then into the sulphur house.

We should aim at producing a well "cured" fruit, and not merely dried fruit.

At an earlier meeting of the Renmark Bureau, at which the subject of Mr. Darrington's paper was discussed, several interesting points were made by that gentleman that were not included in his Conference paper. It was mentioned that the whole Apricot takes three times as much sulphur as the cut fruit, and that the trays of whole fruit, after sulphuring, should be kept in the stack for

from four to six days, and not spread in the sun for color until the fruit is wilted. The temperature of the dip may be anything from 112 to 130—just enough to crack the skin lightly.

Mr. Darrington, who is a notably "handy" man, gave some useful directions for making sulphur boxes, where the expense of a regular sulphur house is not warranted. He had found that the ruberoid boxes do not last, and recommended the use of good wheat sacks, sewn together to size and nailed on a box frame, with the joints covered by a light cleat. The wheat sacking is then washed with a mixture of lime, oil, salt and sugar, with two heaped handfuls of cement, stirred thoroughly as it is poured into a kerosene bucket. The mixture must be kept well stirred to prevent the cement settling. It is applied with a brush. The proportions used to a bucket are 1 lb. salt, 1 lb. sugar, a 1½-pint bottle of boiled linseed oil, and from 5 to 7 lbs. of lime, according to quality. Sacking treated in this way has remained like a board for the past seven years.

DRIED FRUITS IN SPAIN.

Compulsory Co-operation and Export.

A ROYAL ORDER in Spain has just established a compulsory co-operative association throughout the raisin district of Spain, known as the "Camara Official Pasera de Levanta," with headquarters in Denia, and will be directed by the Council of National Economy.

The organisation will compile production statistics, and establish rules for improving the cultivation of the muscatel grape. It will also select and grade the raisins, specifying those that should be exported and those for domestic sale. Control is given of the quantity and quality of this product which may be exported, and also of the quantity and quality to be used for industrial purposes.

Trade marks and other distinctive signs for varieties will be established. The Camara is authorised to take measures to prevent any fraudulent practices in connection with exportation. This applies particularly to the mixture of various kinds and qualities of fruits which are not of the muscatel variety.

Prices, effective for each different grade will be established at the beginning of each season, these prices to be based upon cost of production, competitive prices, and world demand, together with stocks on hand in various places.

A complete census of producers and exporters will be taken, and no shipments by either producer or broker can be made without the approval of the association. Shipments are to be controlled by prohibiting the movement of raisins that are not accompanied by the proper documents.

Funds for the operation of the Camara will be obtained through the annual taxes, which shall not exceed one peseta per quintal of 50 kilos (110 lb.). This tax will be collected when the license authorising shipment is issued. Twenty-five per cent. of these taxes are to be apportioned for advertising purposes.

AUSTRALIAN SULTANAS FOR BRITISH BISCUITS.

Empire Preference.

The Minister for Agriculture in New South Wales, who is also Chairman of the Water Conservation and Irrigation Commission, has received advice that Peak-Frean & Company Ltd., the celebrated biscuit manufacturers of London, have recently introduced a new biscuit under the name of "Sultana Sandwich," which biscuit is guaranteed by that firm to contain nothing but Australian fruit, and is being pushed on the markets of the United Kingdom in the interests of Empire trading.

Australian fruit producers and distributors will no doubt much appreciate the action of Peak-Frean & Company Ltd., in thus stressing the Empire origin of the fruit in the Sultana Sandwich biscuit, which policy it is understood is something quite new in the British biscuit industry.

The Minister adds that it seems evident from the action taken by Peak-Frean & Company Ltd., and from recent speeches made in Canada by Mr. Baldwin, the Prime Minister of Great Britain, that the matter of preference for Empire goods is now to receive the more serious consideration of the trading community and the consuming public of Great Britain, a fact which should encourage the primary producers of Australia to put forth every effort in the production of high quality goods, which will commend themselves to buyers in Great Britain, and such action should assist materially in increasing the demand for Australian products, with resultant extension of land settlement in Australia.

The land is our capital; its products our dividends. Don't burn the interest—forests.

Potash.

Increasing Consumption.

IN "The Fruit World" for August, under heading "Seasonal Work at Hastings" (Victoria), appears this note regarding manuring "... also a large amount of potash is now being used with good results. About 2 lbs. per tree is usually applied in old orchards."

That is also true of many other districts, yet the use of potash in this country is still only in its initial stages, and it is likely that for every ton used now, scores of tons will be employed in the not very far distant future.

It is generally conceded that the older fruit-growing districts are not to-day yielding nearly so heavily per tree as they did a decade or two back, and amongst other causes, the need for heavier and more consistent potash dressings may well be limiting returns. It has long been recognised that production of any kind entails withdrawal from the land of the elements of growth, and as trees age so must they find within reach of their roots an ever decreasing supply of natural potash in a form available for assimilation. But it must also be remembered that in the case of deep rooting trees and vines, increasing age means penetration by the root system of lower and less richly potash-supplied soil strata, for "available" potash is found in best supply in the upper layers or strata.

A Wonderful Investment.

During recent years much of the produce of orchard and vineyard has been difficult to dispose of profitably. Yet, despite that fact, the consumption of potash has steadily and considerably increased in every State in Australia—and very notably in Tasmania. It really appears that the worst period of unprofitable production has been passed, and on that theory is founded the statement that potash will be used much more freely in future than it is to-day. The cost of its application is trifling—a few pence per tree representing an adequate dressing, and the almost startling benefits which can and do follow its application on land deficient in potash, make the outlay of those few pence per tree a wonderful investment indeed.

Spraying, cultivation, fertilising with other necessary "plant-foods," all these are essential. But growers are obviously now recognising that, having to undertake these expenses, it is not wise to limit tree or vine production, by failure to provide the potash which is inseparable from large crops of high quality fruit.

Instances multiply of adequate potash-dressings paying, not only for themselves, but also for much more than the cost of the other necessary treatment.

Recent research

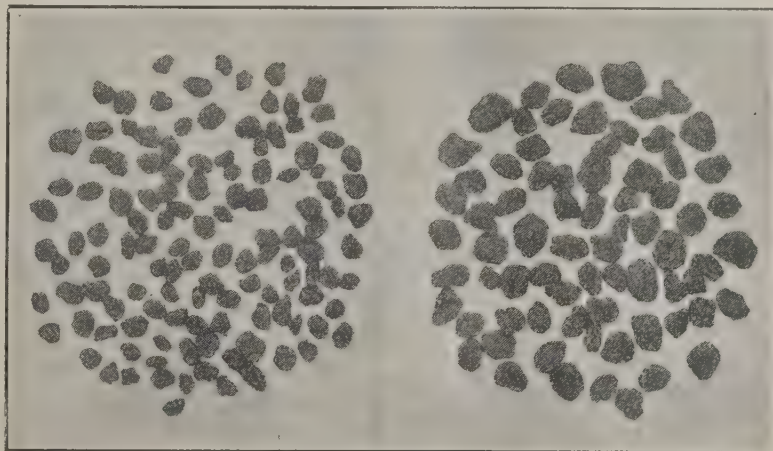
in Europe points to a strong likelihood that to be fully effective, potash-dressings on land decidedly deficient in "available" potash, must be heavy. That is so because it is thought that the long-recognised absorbing power of the soil, whereby applied potash can be held by that power, defeats the feeding root system in the competition for the potash applied in available form, so that light dressings can enrich the soil rather than the tree or vine for the benefit of which the dressing was intended.

Once the absorbing power (still more or less an unknown quantity), be satisfied, however, it is logical to suppose that further dressings of potash would be available for direct production by the tree or vine.

Amount per Tree.

Dressings up to four or five pounds per tree to matured Apple or Orange trees have recently been proved profitable, and to provide anything like that quantity in a "mixed fertiliser," the potash content of the mixture would need to be a high one indeed, when the customary rate of application of such "mixed fertilisers" is considered.

A notable feature of recent potash importations to this country has been the increasing proportion of muriate of potash in the total consumption. It was formerly thought that sulphate of potash was preferable for fruit, vines, etc., but modern practice tends to discredit that theory. In America, for instance, for the fertiliser year ending April 30, 1926, the importation of sulphate of potash to U.S.A. only amounted to 67,136 short tons, against an importation of 204,791 tons of muriate of potash



The effect of potash on quality of fruit. These currants were grown on adjacent rows of vines by J. H. Surgery, Mildura. Both rows received bone super, but the addition of 1½ cwt. muriate of potash per acre resulted in the larger fruit on the right.

It does seem clear, at least, that potash dressings should be applied rather earlier than is customary. There is but slight risk of potash "leaching," but on the other hand there are chemical changes to be undergone by the potash as applied before the roots can assimilate it; and again, particularly under conditions of natural rainfall, those roots are widely and deeply spread in the soil, and time for thorough penetration and diffusion by soil-moisture ought reasonably to be allowed for by the grower. Autumn or early winter application when cultural practice permits, then, would seem distinctly preferable to spring dressings, suitable though a spring dressing may be in the case of sulphate of ammonia or nitrates.

and 617,739 tons of lower grade salts, also to be described as the chloride or muriate form of potash. That is to say that of the total potash importations to America, considerably less than one-tenth was in the form of sulphate of potash.

It is true that muriate of potash is cheaper than sulphate, and that it is proportionately richer in actual potash. It is also a fact that the use of sulphate of potash is virtually unknown in French viticultural practice, the chloride or muriate form being very widely employed. Official research in Switzerland, recently concluded, demonstrated that the cheaper (muriate) form was actually preferable to the sulphate over a term of years.

The Life of an Apple.

Factors in the Preservation of Fruit by Cool Storage.

Address by Dr. Franklin Kidd, of the Cambridge Low Temperature Research Station.

ONE OF THE MOST IMPORTANT activities of the re-constituted Council for Scientific and Industrial Research, has been to invite highly-qualified British scientists to visit Australia to study problems of food preservation and transport, especially in relation to overseas marketing. Prominent among these is Dr. Franklin Kidd, D.Sc., of the Cambridge Low Temperature Research Station, who is investigating problems of the fruit industry in all the States.

Speaking at the Fruitgrowers' Cool Stores Conference, at Croydon, on August 9, Dr. Kidd said there were always two aspects to any special set of problems—the particular and the general. As practical men, fruitgrowers had a very definite acquaintance with the particular aspect of the preservation of fruit; as a scientific research worker, the speaker's knowledge was more in the nature of general principles, and he would therefore speak of this aspect; but he considered it the duty of every practical man to definitely carry out experimental work for himself, to advance his knowledge of what his own particular orchard would do, of the characteristics of Apples from particular localities, and the special features that cool stores in particular districts had to deal with.

Dr. Kidd said he would deal from a general point of view with how and why the life of an Apple, after it was gathered, was affected by three main things—temperature, atmosphere, and the inherent qualities it possessed when it reached the store.

Temperature.

The principal fact arrived at as the result of quite a large amount of rather detailed investigation, was that for the Apple, as for all plant organisms, there were only certain limits of temperature within which that organism could complete its life cycle, and die a natural death at the end. As with human, so it was with less highly evolved organisms, such as plants. The importance of this in the cool storage of fruit was that it was found that a certain variety of Apple, for instance, that known in England as Newtown Wonder, could complete its life cycle at a wide range of temperatures from just above freezing point. When Apples of this type were tested at a number of temperatures, it was

found that the time they would live before natural death occurred formed a regular series, the life cycle being shortest at high temperatures and longest at low temperatures.

Another type of Apple grown in England, the Bramley Seedling, tested at temperatures from say 30 to 70 degrees, did not give the same result. Instead of the time that it would live being short at the high temperatures and gradually increasing in length as one went down the temperature scale, a point was reached at say 40 degrees where there was the maximum length of life; below that, the Apples showed progressively shorter lives.

In the one case, which is called the typical standard case, the life cycle was evenly prolonged; in the other case it lengthened for a cer-

WELL-KNOWN LONDON FIRM OF FRUIT IMPORTERS AND BROKERS

Require reliable and efficient Representatives (either firms or individuals) for New South Wales, Victoria, South Australia, and Western Australia, to influence Consignments of Apples, Pears, etc., commencing for the 1928 season, against the usual documentary credits.

Will exchange Bank and Trade References, and arrange suitable remunerations.

Write "B," C/o "FRUIT TRADES JOURNAL,"

1 Mitre Court, Fleet-street, London, E.C.4.

tain range of the temperature scale, and then got shorter, and where it was shorter, the life cycle was not complete. There were other obvious factors which indicated this; just before the death of the Apple, it was hard, green, and quite unlike the Apple in the first case, which died its natural death.

That form of premature death had been called "internal breakdown." It was generally associated in Apples first with browning, then a browning and softening of the internal tissues of the Apple. The practical bearing of this in the storage of Apples was that while some Apples were able to live right through long periods of storage, extending their lives to the greatest degree at the lowest temperatures that could be used (about 30 degrees), other varieties would suddenly collapse. Growers should find out for themselves by experiment

in their own orchards and their particular cool stores what their own Apples would do.

Atmosphere.

What was the effect of atmosphere on the keeping quality of fruit? In relation to temperature it was said that the life of the Apple was longer at the lower temperature. The lower the temperature, the slower the Apple was living; the higher the temperature the more rapid its life, and hence the more quickly completed. That fact was indicated by the rate at which it breathed.

The deeper significance of breathing was taking in oxygen and expelling carbon dioxide. In human beings the real act of breathing took place in the tissues—in the muscles. In the Apple, the ventilation of the interior of the fruit took place through a marvellously intricate series of air spaces right through the Apple. The fundamental fact was the same in both man and fruit respiration took place in the flesh of both.

The rate of breathing of the Apple was measured by the rate at which carbon dioxide was given off. It was found that in a given time, the amount of carbon dioxide given off (or the amount of breathing done) was far greater at the high temperatures than at low temperatures.

The effect of the atmosphere on fruit was really the effect of oxygen and carbon dioxide, both of which had an effect on the rate of living of the Apple. If there were twice as much oxygen in the air, its effect on the rate of living would be twice as great. The fact had been established that if the Apple absorbed twice as much oxygen, the rate at which it would be consumed was twice as great, and the time it would last was half as long. In the natural air there was about 20 per cent. oxygen, and the rest nitrogen. If the oxygen were reduced to about 5 per cent., it was found that the time the fruit would last was greater.

With regard to carbon dioxide, it had long been known that on living organisms carbon dioxide had an effect, in small doses, comparable to that of a narcotic, or chloroform, and in larger doses, comparable to a poison. If an Apple were given a dose of carbon dioxide, either by allowing its own products to accumulate round it, or by putting it into a carbon dioxide cylinder, it was found—by the criterion of how long the Apple would last, and also how fast it breathed—that the rate of living was slowed down, as with a narcotic; but if the dose were increased, the rate of living was rapidly increased, the Apple showing all the effects of a lethal poison. That knowledge had

had direct practical result in helping to clear up the controversy as to why Apples in a certain type of hold arrived in a state of deterioration rendering them practically worthless—in fact, they were dead, or half dead.

There were two sets of opinion in regard to carrying Apples in these non-ventilated holds. One set said: "We have carried Apples in these holds and we have always had remarkable success; in fact, more than when carried in ventilated holds." The other camp said: "Whenever we have carried Apples under these conditions we have always had disaster: we must ventilate."

With the addition of scientific knowledge, these two sets of opinion really became one, for both were right. Where the amount of accidental ventilation (i.e., ventilation which was occurring without the knowledge of the people responsible for the holds) was sufficient to free the atmosphere of sufficient of the carbon dioxide given off by the Apples to reduce it from a poison dose to a narcotic dose, the effects were beneficial; but where that accidental ventilation was not sufficient, and the accumulation of carbon dioxide reached the toxic, lethal dose, the Apples arrived in a state rendering them useless.

A further application of this knowledge would probably occur when the whole ground had been more fully explored. The time was definitely in sight when cool stores would control not only temperature, but also artificial ventilation. The general effects of temperature were widely known, but no one yet knew what were the effects of atmosphere modified in artificial ways. Before application could be made of the principle that we could slow down the rate of living of an organism by reducing the oxygen and allowing carbon dioxide to accumulate, much further investigation must be made experimentally, using quantities of fruit which would not mean disaster for the owner if they all went wrong.

Inherent Qualities.

The last point was the inherent quality of the Apple at the time of picking and its effect on the length of life. The shipping companies generally talked of "inherent vice" as the only inherent quality of an Apple when delivered to them; but we all knew of other inherent qualities.

First there was the inherent quality of race. There were definite and marked differences between kinds of fruit and even between varieties of Apples with regard to the

rate at which they respired and the rate at which they lived, and consequently the length of time they would keep in storage. Certain berries were well known to keep only a short time, as for instance, the Raspberry, which lived and breathed 17 times as fast as the Apple. Broadly, there was a direct relation between the rate of living, and the natural extension of the life of the fruit.

With regard to the Apple, what could we say in a general way about the inherent qualities it possessed at the time it was gathered, and their relation to the length of its life in storage? The inherent qualities naturally must have been produced during the previous history of the Apple, and could be analysed into factors of nutrition. These again could be analysed into the nutrition of the actual living stuff of the Apple (protoplasm), and the accumulation of its stored reserves.

The Apple, when it was gathered could no longer draw on any food materials from the tree, and had to rely on the food reserves stored before it was gathered. It was really in the position of a man cut off from food. There was the amount of actual living material that the Apple contained, and the amount of reserves on which that protoplasm could draw.

Protoplasm was generally measured and expressed in terms of nitrogen, as it was the only substance in the Apple which contained nitrogen. Other substances, such as sugar and acids, which did not contain nitrogen, constituted the food reserves of the Apple.

The inherent qualities which controlled or determined the length of time which the Apple would keep in storage were, firstly, race; and secondly, nutritional factors in the past which had led to either more or less living matter in the Apple, and more or less food reserves in the nature of sugar and acids. When there was a lot of living matter and little reserves, the life of the Apple would be short; when there was little living matter and a lot of reserves, its life would be long; and there were possibly intermediate conditions when the life would be in between.

The amount of nitrogen contained in the protoplasm was generally related to the amount of nitrogenous manure which the tree had received, and it was therefore generally true that a tree which was heavily manured would yield Apples which would not keep as long as those from a poor soil. Artificial manures such as phosphorus and potassium had an effect due to the fact that the plant

required them for the building up of its food reserves, and they reacted upon the amount of food reserve which the fruit would store. Again, factors such as climate would all have effects on the amount of the food reserve.

In reply to a question, Dr. Kidd stated that the rate of living of different varieties of Apples had been worked out for three or four well-known English varieties, but he could not give figures for Australian Apples. The difference between different varieties of Apples was of course not as marked as between different kinds of fruit. This question should form one of the subjects for investigation by the Council for Scientific and Industrial Research, with a view to finding which varieties would be likely to do best in cool store.

Asked whether the use of waxed wrappers as a preventive of scald would have an effect on the Apple's breathing, Dr. Kidd said it should do so. There was a system of air spaces inside the Apple, with a skin covering them over. Ventilation took place through the fruit skin. A single Apple might be regarded as closely analogous to a store full of boxes. Anything done to the skin of the Apple would have an effect on the breathing, and consequently on the length of time the Apple would live.

Dr. Kidd was warmly thanked for his valuable address.

DRIED FRUIT QUOTAS.

Increases for Local Sale Approved.

The Acting Chairman of the Victorian Dried Fruits Board (Mr. E. Meeking), announced at the end of July, that the production and consumption of Currants, Sultanas, and Lexias within Australia had been reviewed by the Board. Sales had advanced sufficiently to warrant an increase in the quantities sold upon the Commonwealth market.

The Minister for Agriculture (Mr. Slater) had approved of the fixing of the percentages of the 1927 crop, which could be sold within Australia, as follows:—Currants, 25 per cent., sultanas, 12½ per cent.; Lexias, 25 per cent.

These percentages had been agreed upon after consultation with the South Australian and Western Australian Dried Fruits Boards, and were tentative. In view of the large crop harvested this year, the quantities released would be almost sufficient to meet the probable Australian consumption, and no further material increase in the Commonwealth quotas could be expected.



Fundamental Principles of Citrus Growing.

[By Redvers J. Blatt, Ph.D., of South Africa and California.]

(Continued from p. 312 August Issue)

(5) Pest Control.

BY PEST CONTROL is meant the control of insect pests. No grower can be successful unless his trees are protected from the ravages of insects. Most Citrus-growing countries are troubled with some kind of scale; in California the black scale (*Saissetia oleae*) is considered the worst insect pest; in South Africa the common red scale (*Chrysomphalus aurantii*) ranks as the outstanding pest of the Citrus groves. Both in California and South Africa scale insects are the worst pests of Citrus trees, and constant war has to be waged against them.

Damage is done to Citrus trees by insects in two different ways; in other words insects are usually divided into two general groups, the chewing and the sucking insects. The biting insects are those which bite pieces of the plant tissue and actually consume parts of the leaves. The sucking insect pierces the tender plant with a slender proboscis or tube-like mouth-part and proceeds to extract the sap from the cells. All the scale insects, the mealy bugs, the plant lice, and the red spiders have sucking mouth parts; the thrips have mouth parts fitted for both rasping and sucking. The "False Codling Moth," a pinkish caterpillar feeding on the pulp, and the "Fruit Fly," a cream-colored maggot feeding on the pulp are chewing insects that feed inside the fruit. The "Orange Butterfly" is a chewing insect that feeds on the stems, foliage and rind.

A proper understanding of the manner in which an insect obtains its food is necessary before control measures can be intelligently applied. For sucking insects, a solution

or gas which kills by contact, such as lime-sulphur or hydrocyanic acid gas is necessary. For chewing insects a stomach poison such as Paris green or arsenate of lead should be used. In California, scale insects are largely controlled by fumigation; in fact, most of the growers have come to the conclusion that fumigation is the only means of controlling black, red, yellow and purple scale. The yellow scale (*Chrysomphalus aurantii* var. *citrinus*), is but a variety of the red scale, and is almost the same in structure. The feeding habit, however, differs from that of the red scale, as its attacks are almost wholly restricted to the leaves and fruit. The Citricola or soft gray scale (*Coccus Citricola*) is a serious pest in Tulare County, California; it is, however, controlled by two sprays of lime and sulphur, plus a miscible oil and a spreader, i.e., casein. The same spray is used quite effectively against the thrips, one of the sprays being used for both the thrips and the Citricola scale at the same time.

In South Africa four different species of scale have given much trouble, viz.—red scale (*Chrysomphalus aurantii*), purple or mussel scale (*Lepidosaphes beckii*), circular purple (*Chrysomphalus ficis*), and soft brown scale (*Coccus hesperidum*). These four species of scale should be controlled, otherwise it will be impossible to grow citrus successfully. The red scale, unlike the soft brown scale, does not exude honeydew, but its effect on the tree is far worse than that of the latter. The injury to the tree is due either to the loss of the sap or to the poisonous effects upon the cells of the tissues attacked. The red scale quite commonly affects its host plants very

seriously if not fatally, and also settles on the fruit, marring its appearance and market qualities.

The soft brown scale exudes honeydew, which is usually covered with "sooty-mold" fungus, thus the fruit has to be washed. In addition, the "sooty mold" has another bad effect—sunlight cannot get to the Chlorophyll, and the manufacture of carbohydrates is interfered with. The trees soon show the ill-effects of the "sooty mold," hence the scale has to be eradicated, in order to eliminate the "sooty mold."

The "mussel scale" is a serious pest in many districts in South Africa. Like the red scale, it attacks fruit, leaves and branches. The soft brown scale can be easily controlled with a resin wash, the following formula being recommended:—Resin, 24 lbs.; caustic soda, 5 lbs.; fish or whale oil, 2½ pints, and water to make 100 gals.

Methods of Control.

In Australia, as in other countries it is essential that scale be controlled annually, and judging by experience in other countries, fumigation seems the only method of controlling the armored scale. Liquid cyanide fumigation is used almost entirely in California to-day. Since the liquid cyanide is made in the country, and transported in tanks on motor trucks, this method is probably the best for California. In South Africa the pot method seems to be the most feasible, and is used all over the country. Cyanide dusting has been tried, but the results were not promising in many districts. In one particular valley, where a Cyanofumer had done good work in the past, the change to cyanide dusting has been disappointing.

Small growers, however, are not prepared to invest in expensive equipment in order to fumigate a few trees. These small growers would naturally much prefer to spray if there were an effective spray. Un-

Fortunately the only sprays that have given anything like a good kill on red and mussel scale are the oil sprays, which, however, are quite expensive. "Gargoyle" oil and "Volck" should be tried out in the different Citrus areas, because if these sprays will control scale, the investment in a power spray pump will be much less than in a fumigation outfit.

Co-operative Fumigation.

Undoubtedly the best means of attacking the scale problem is to join a co-operative society, which should fumigate on a co-operative basis. The society should own all the equipment, and each member should be charged according to the number and size of trees fumigated. It may be possible for certain co-operative societies to follow the example of a certain co-operative society in South Africa that has achieved marked success by fumigating with a Cyanofumer on a co-operative basis. This Cyanofumer is the only one of its kind in South Africa, and so far has been a marked success. The advantage of this machine is that much more work is accomplished in a given time than by the pot method. The only drawback is the initial cost of the machine, but co-operative societies should be able to buy one without causing much inconvenience to their members.

Fruit Fly.

Next to scale, the Mediterranean fruit fly (*Ceratitis capitata*) probably causes the most damage, and should be controlled if Citrus growing is to be carried on successfully. The United States Department of Agriculture is using drastic means to prevent the entry of the Mediterranean fruit fly into the country. Fruit from countries that have the fly is, therefore, banned from entry into U.S.A. It is the opinion of experts that the fruit industry of California and Florida would be doomed if the Mediterranean fruit fly ever gained an entry into America.

In South Africa the "Mally Fruit Fly Bait," when properly carried out, seems to have given very good results. This bait, consisting of 1 lb. arsenate of lead (powder), 3 gallons crude treacle, 25 lbs. sugar, and 40 gallons of water, is usually applied just before the fruit reaches maturity. Very little success will be gained unless the bait is sprayed on the trees at frequent intervals, at least once a week during the time the fruit is reaching maturity. Every tree need not be sprayed, and only parts of certain trees should contain the bait. The best method of application is by means of an ordinary garden syringe.

There are many other minor pests like thrips, psylla and aphids, but whereas they should be controlled when serious, in the past they have not threatened to become important economic factors like scale or fruit flies. Thrips scar the fruit, the chief loss being caused through the affected fruit being classed in a lower grade, and while the eating quality of the fruit is not affected, the outward appearance reduces the selling quality. It is seldom that the damage of psylla or aphids is so serious that control methods are warranted. Nicotine sulphate, or a miscible oil will control both these pests. The "Orange Dog" often causes much damage to young trees, which may be

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for
this market will have
careful attention and
realize highest prices
if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of
every consignment.

Cheques posted promptly.

Drop us a Line or Cable
"Peachbloom," Dunedin.

sprayed with arsenate of lead, or the caterpillars may be handpicked and destroyed.

(To be continued.)

HOW AMERICANS VIEW IT.

While the announced adoption of the Sunkist juice extractor by the Victorian Railways, Australia, will not contribute much to the consumption of California oranges, it does mean that just the quantity of fruit that is passed through those machines will be removed from competition in the world's markets. Anything which tends to the increased consumption of citrus fruits, no matter where it is used, aids in the solution of the problem of what to do with all the Oranges, Lemons, and Grapefruit the world will produce as new acreages come into bearing. — "California Citrograph."

CITRUS BUD SELECTION.

N.S.W. Nurserymen Take Action.

The Nurserymen's Association of New South Wales is co-operating with the fruit branch of the Agricultural Department, and the citrus growers, with the object of selecting and registering certain citrus trees approved from the standpoints of production, quality, and type. According to a statement by the President of the Association (Mr. H. Hazlewood) recently, these will be practically stud trees, from which will be provided buds for propagating young trees, in order that growers may rely upon obtaining the most reliable kinds. A committee has been formed to take this work in hand.

In this matter, also, the Irrigation Commission has taken practical steps to standardise the types of citrus fruit, particularly Oranges, on the irrigation area. Hundreds of trees have been examined. The poor cropping trees have been marked so that they can be re-worked to better commercial varieties. In some instances, where the commercial productivity of the trees is in doubt, their fruiting characteristics will be noted next season in order to determine whether such trees are to be eliminated.

The fruit inspector of the Department of Agriculture (Mr. Benton) states that 250 citrus orchards on the Mirrool end of the area already have been inspected, and growers generally are alive to the necessity of this work.

PRUNING ORANGE TREES.

A Job for September.

With the exception of the pruning given at planting time—when the young tree is cut well back—it is not recommended that young oranges be cut very much during the first season. The orange is naturally an easy tree to shape, but during the second year any strong-growing limb may be cut back a little, just to keep the tree evenly balanced, and to give strength to the limbs. Any very low limbs may be removed up to a height of 18in. from the ground, so long as there is a sufficiently good top left to shade the tree, says the N.S.W. Dept. of Agriculture.

The following year the tree will require just a little attention, the ends of any strong-growing limbs or suckers being cut back to give them stability. Suckers, where not required to fill up space in the tree, should be removed. At this stage it might be advisable to thin out any

parts in the centre of the tree where it is inclined to grow too dense. In the following years it will be found that certain limbs have become misplaced, and that some of the lower branches are becoming too low. In such cases these branches should be removed.

Cuts Heal Readily in Spring.

The idea of pruning all Citrus trees during August or September, i.e., just about the time they begin to grow, is to enable the cuts to heal readily, which they do at that particular time of the year.

Each spring or early summer all dead wood should be removed from the Orange tree, which should be preserved in a compact wall of foliage of symmetrical and convenient form. In pruning the trees, especially seedlings, all thorns should be regularly removed from the inside of the tree, so that the limbs will present a smooth surface, and that fruit found growing towards the inside of the tree may be picked from the inside if necessary, or the tree sprayed without hindrance.

The lower branches of the tree should be kept cut back so that the fruit will not touch the ground. The fruit growing low down on any tree is more easily picked, and is less susceptible to damage by winds than that hanging high up on the tree; consequently, it is well to encourage the production of fruit almost to the ground.

Orchard for Sale

in the
Picked Spot of the State.

30 Acres of Full Bearing
Orchard: Apples, Pears, Lemons
And
325 Acres of Good Irrigable
Land.
(Under the Coliban Irrigation
System).

5 MILES FROM HARCOURT
RAILWAY STATION.

Two Residences on the Property.
Permanent Water Supply.
Every Convenience.

Further Particulars on applica-
tion to—

G. E. RICHARDS,
Sutton Grange, Victoria.

GIANT CITRUS TREES.

California Eclipsed by Australia.

A group of old citrus trees, which are said to include the largest individual specimens in the world are growing at Moorland, near Taree, on the North Coast of N.S.W. According to enquiries made by Mr. J. R. Benton (Senior Fruit Instructor), these trees were planted by Mr. R. Crassingham about 67 to 70 years ago. They are growing on deep red volcanic loam, and still bearing excellent crops of clean fruit.

One seedling Mandarin tree five years ago had 100 half-cases of fruit actually despatched from it. How much wastage there was it is impossible to say. Since that crop of Mandarins was harvested almost half the tree broke off, and the remainder shows a spread of 39ft. 2in. The girth at 1ft. from the ground (where the diameter is the smallest) is 5ft. 10½in. Owing to the debris around it, no measurement of the height was possible, but it is intended to ascertain this later.

Almost beside the Mandarin is an Orange tree outstanding from the rest. This is a little larger than its mates, and the girth measures at 1gt. from the ground 86in., and 3ft. from the ground the girth is 98½in. The greatest spread of branches is 33ft. 1in., but its height has not yet been taken. Only a light crop of Oranges is being borne this season (about 30 per cent. of normal), but this proportion is in keeping with many trees in commercial orchards this season.

What is said to be the largest tree in California was illustrated in a recent issue of the "California Citrograph." This was planted in 1856, and the measurements were given as: Height, 33½ft., girth at 1ft. from the ground, 66in., and at 3ft. from the ground 90in., with a spread of branches to 31ft. 5in. It was estimated to be carrying 10,000 fruits when measured in November last.

Classified Advertisements

Wanted and For Sale.

Prices for Advertisements under this heading are as follows:—

Casual Advertisements, one to six words, 2d. per words. Contract Advertisements, twelve months, 1½d. per word.

FOR SALE.—I.H.C. Power Pump. Just completed spring spraying. £50. —Greenwood, Orchardist, Merrigum, Victoria.

U.S. CITRUS EXPORTS GAIN.

Exports of Apples from the United States were double those of Citrus during 1926, according to D. J. Moriarty, specialist in the fresh fruits foodstuffs division of the U.S. Department of Commerce. Nevertheless Citrus shipments from this country in 1926 surpassed those of the previous year by more than 18 per cent. One of the reasons for the 1926 heavy exports of Apples was that the European crop was very short.

But our exports of Citrus fruits do not look out of proportion, when it is realised that all the great variety of American fruits and berries exported amounted in value to over £10,000,000, and those for Oranges, Lemons, and Grapefruit aggregated £2,895,000. And speaking generally, the Citrus fruit brought back a profit to those who forwarded it, while according to some reports, Apples did not attain that desired goal.

The showing for American Citrus is pretty good also when it is taken into consideration that the growers of South Africa, Spain, Japan, China, Palestine, and Italy are sharp contenders for these markets. With those countries, the domestic demand is no great factor, and they have to cultivate the European markets. In the United States domestic consumption is the major one, and the export trade is sought to take care of the constantly increasing production in this country. — "California Citrograph."

"The people will be served! Notwithstanding the campaign which has been waged in the British possessions to buy British products, the consumption of Apples in Canada dropped 50 per cent. last year. And the consumption of Oranges and Grapefruit increased 15 and 30 per cent. respectively. Canada raises no Oranges and Grapefruit, but she does raise an almost limitless quantity of Apples. Of course we can and do sympathise with the Apple grower, but we really cannot help it if the people prefer Oranges, can we?"—California Citrograph.

PERSONAL.

Mr. A. G. Strickland, B.Ag.Sc., has now joined the Horticultural Branch of the Victorian Department of Agriculture, and will be engaged on research work and scientific investigations.

"Something About Nitrogen."

A Talk by W. B. Edwards to the Diamond Creek Horticultural Society
Monthly Meeting, July 28, 1927.

Introduction.

THE ANCIENT MARINER who complained of:—

"Water, water, everywhere
Nor any drop to drink,"

was in no worse plight than the fruit tree that badly needs nitrogen, for the air that boisterously blows through its branches, or lightly rustles its leaves, contains about 80 per cent. of nitrogen, which the tree cannot use. And while nitrogen is probably the most plentiful commodity in existence, it is about the most expensive article of diet on the plant's bill of fare.

Only the leguminous plants, the Beans and the Peas—the podbearers—are able to use the nitrogen of the atmosphere. The technical man would say that they were able to "fix" their own nitrogen, through the nodules that exist on their root systems. In return for their board and lodging the bacteria living in these plant nodules supply the necessary nitrogen, which accounts for the oft-repeated statement that the podbearers do not require nitrogen to be artificially applied, so long as the potash and phosphoric acid and the other mineral requirements are present in the soil in sufficient quantities. It also accounts for the high value that is placed on the podbearers for green manuring purposes.

The ordinary plants that do not take in bacterial boarders cannot make use of the free nitrogen of the atmosphere, and unless the soil contains in its stocks of humus, sufficient nitrogen in what is known as a combined form, it will have to be artificially applied. It can be applied as organic nitrogen—in the form of waste organic substances, as for instance offal manures—as ammonia nitrogen by the use of by-product sulphate of ammonia, or by the newer synthetic ammonia fertilisers, or as nitrate nitrogen, by nitrate of soda, nitrate of lime, etc. Which-ever form is used will be determined largely by the price per unit of nitrogen, and its availability.

Until recently the relative unimportance of nitrogen in Australian agriculture and horticulture has been stressed by experts, but we observe a dawning recognition of the need for increasing quantities of all forms of nitrogen, and we find here and there, such outstanding examples of its very high value, particularly in

market gardening and fruitgrowing, that it seems entirely logical that the more alert producers should want to know more about it.

Some more optimistic than others, and with considerably less practical knowledge of Australia's fertiliser requirements, seem to believe that the use of nitrogen will cure all the ills that beset the primary producer, and go to great lengths to explain that nitrogenous manures are the most important in the northern hemisphere, where the farms are small, and the yields are great, and where there are "more mouths to feed." They forget that the countless generations of cultivation and the small size of the holdings, by comparison with those in Australia, have contributed largely to the dominant place occupied by nitrogen in the fertiliser usage of the agricultural population. They do not recognise, either, that the nitrifying bacteria of the soil have little chance to work during the long and severe winters that European countries experience.

The value of nitrogen in Europe can be indicated by the magnitude of the plants for the extraction of nitrogen from the air—particularly in Germany. Previous to the war Germany was an importer of nitrogenous substances—her importations of Chilean nitrate of soda in 1913 amounted to over three-quarters of a million tons. To-day she takes care of her own nitrogen needs, and throws an appreciable surplus on the world's markets. Other than nitrate of soda, Germany accounts for 66 per cent. of the world's present nitrogen output. By the activity of the nitrogen-producing interests in Europe it is evident that increased agricultural production there, is entirely a question of available nitrogen.

As to whether the time is ripe for the establishment of a plant for atmospheric nitrogen fixation in Australia—I am afraid that our consumption is too restricted to make the fixation of nitrogen a profitable venture. It would have to be subsidised, and somehow I think that, as taxpayers, we would be subsidising an industry, the chief benefits of which would go to agriculturists outside the Commonwealth, for quite the major portion of the production of a plant large enough to be economically run, would have to be exported.

English and American authorities almost invariably rank nitrogen as the limiting factor in crop production, but experience has shown us that there is a natural deficiency of phosphoric acid in Australian soils, which makes phosphatic fertilisers our chief need. Our soils have responded so wonderfully to the use of phosphates that superphosphate has come to be regarded by most people as the soil's only artificial need. While it is undoubtedly the chief need, it is not the only one, and though we might be a long way from the same liberal use of nitrogenous manures, as is experienced in countries of older and more intensive cultivation, we have not yet reached what might be regarded as a generally satisfactory or economic application for the Commonwealth as a whole. Our nitrogen consumption is still lower than it should be, and it ought not to be necessary to export any sulphate of ammonia from Australia at all. The present exportable surplus of from 5,000 to 6,000 tons should be used here.

It were able to analyse the composition of any plant we would discover that it needed the same nutrition no matter where it was grown. We have been assured that "other conditions being favorable,

the development of plants is proportional to the supply of combined nitrogen, and if that is not naturally available it must be added." One concludes by the increased use of nitrogen that its influence on the development of trees is being better appreciated, and that it is becoming less and less "naturally available."

Starting with a soil naturally low in phosphates, and well supplied with nitrogen, through its limited period of cultivation, we see the need for nitrogen in Australia first arise in those forms of cultivation that demand a crop every year from the same soil. We see intensive forms of cultivation call first for nitrogen—the market gardeners, the fruitgrowers, the vine-growers and the small mixed farmer—these are the men who have first proved that nitrogen artificially applied pays.

Nitrogen for Moist Districts.

Both Professor Paterson and Mr. W. Catton Grasby, in their fine books, "Nature in Farming," and the "Principles of Australian Agriculture," have pointed out that where the use of nitrogen is advocated in Australia will be in the moister and cooler portions of the States. To these we must now add the irrigation areas, the "moisture" in their case, though artificial, having the same influence on the soil's nitrogen supplies as heavy rainfall, and the forms of cultivation carried out being such

that bear an annual crop of considerable bulk.

Is it only a coincidence I wonder, that in the State where the two best books on Australian agriculture have been published—Western Australia—the greatest nitrogen consumption in Australia is experienced? I scarcely think so, for Mr. Grasby's Mutual Help column in the "Western Mail," and Professor Paterson's work for the Perth University have helped materially to show the economic advantages of nitrogenous fertilisers in the moist south-west of Western Australia.

I read in one of the weeklies recently—"The Leader," I think it was—something like this:—"A visit to some of the orchards round Melbourne would convince any thinking person that the failure of the fruit-growers to make a success of their jobs was not so much a question of marketing, but was rather due to failure on their part to replace in the soil the elements of fertility that they had been taking out consistently for years in the crops harvested." Personally I do not care to make such a charge, but I believe that there is a good deal in it. Too much reliance is placed on quantity, and too little on quality, or a due combination of quality with quantity.

Is Nitrogen "Expensive"?

We hear, with justification, if one looks only on the surface, that nitrogen is an expensive element of fertility, but the user's claim of expensiveness has to be analysed. If initial cost only is considered, all fertilisers are dear—in fact every operation in the production of any crop is costly, but we have to consider the return, and no fertiliser or combination of fertilisers is dear if a handsome return is secured from their use. One man uses "expensive" nitrogen and sees his profit per acre rise. His neighbour says it is too dear, and won't use it, and the failure to maintain the fertility of his orchard pushes acre profits down and down, proving that expensiveness, like most conditions on this planet, is purely relative.

Unit Values.

Fertiliser registrations are made with the Department of Agriculture on or before the first day in November in each year, and one of the items that is included with registration is the retail price per ton of the fertiliser at the place where it is manufactured. In the words of the Chemist for Agriculture, "the unit value is the value of one per cent. of nitrogen, phosphoric acid, or potash in one ton of fertiliser."

Thus, for illustration, sulphate of ammonia, sold at £16 per ton, and analysing 20 per cent. of nitrogen, gives a unit value of 16/-, which is,

according to the registrations that appeared in last January's issue of the Victorian "Journal of Agriculture," the cheapest form of nitrogen in the State. That a locally produced nitrogenous fertiliser should be the cheapest source of the supply of this element seems to me to be entirely appropriate.

Notwithstanding what I have said about some of the extravagant claims on behalf of nitrogen, I believe that you who are in business as orchardists will find that the free discussion about the value of nitrogenous manures has a sound basis. Their use is essentially an economic question.

You have to find out through experiment what application pays, but you will, if you are wise, err on the side of caution, treating the old trees or those that seem somewhat debilitated, first to see if it is really nitrogen they need, and with them you can be almost openhanded. With the rest of the orchard that seems to be in normal condition, you will not be so liberal. Start with, say, 1lb. per tree, or roughly 1cwt. per acre, with from 2 to 3 lbs. to those trees that are not making the development that is expected of them. (One man gave his citrus what he called a "kill or cure" dose of 14lb. per tree, and brought them back from the woodheap, so to speak, to profitable bearing.)

I don't want to make you believe that nitrogen will take the place of cultivation, for instance, or that it will convert naturally shy bearing varieties of trees into heavy yielders. But it will undoubtedly help to improve trees, and in consequence, tree yields. Nor do I want to suggest for a moment that the heavy dressings that the European and American orchardists are using will prove profitable. Take into account the difference in conditions and experiment on your own behalf, and you will find that nitrogen used judiciously in fruit-growing certainly pays.

There is a common analogy applied to fertilization. It is the drawing of cheques on a Bank account. Unless the money has first been deposited, cheques cannot be drawn. Neglect to periodically restore the funds in the Bank means that sooner or later cheques will be returned with an intimation that there is not sufficient balance in the bank to meet them.

This is exactly what happens when the soil's fertility is drawn on freely without restoration. There is not sufficient balance in the soil to meet the demands of the growing crop, and nitrogen is one of the important ingredients which is being drawn on all the time. The excess use of superphosphates won't make up for the deficiency of nitrogen. The natural law of Give and Take, which we see ap-

plied everywhere, must sooner or later assert itself.

Plants Need a Balanced Ration.

This mistake of imagining that all fertilizers are the same, or that they have the same influence, is much more common than might be supposed. Sometimes I have been asked what is the sense of using sulphate of ammonia at £16 a ton when superphosphate can be had for £5, and I have asked the question—what is the sense in paying 1/6 a lb. for steak, when oatmeal can be had for about 6d. Fertilisers are the same, inasmuch as they are all plant food. Meat, fruit, vegetables, bread, &c., are the same inasmuch as they are all forms of human food, but they differ widely in the influence they bring to bear in the nourishment and development of the human body. Some of these items are dear, while others are relatively cheap.

This is the position with fertilisers—the plant requires certain forms of food for its development, and they have to be found somehow, whether they are naturally present in the soil, or whether they have to be artificially applied. Requiring nitrogen, liberal application of phosphates will not meet the tree's demands. Requiring meat, on the orders of our doctor, we won't derive much benefit from a steady diet of porridge, or bread and milk.

Whether we think of it or not, we are using a balanced ration in the foods we eat, and plants require the observation of this balance in the foods which they need. Some of them demand greater quantities of one element than others do, and we see, in consequence, some countries putting up an extremely

wide range of fertiliser mixtures.

On the whole, of all the Australian States, Queensland—the smallest user of fertilisers in the Commonwealth—mixes the greatest variety. In complete manures sold by one concern, we see the potash content range from 11 per cent. in the case of a sugarcane fertiliser, to 1 per cent. for oats and wheaten hay. Nitrogen ranges from 9 per cent. for sugarcane to 2 per cent. for hay, while the phosphoric acid content fluctuates considerably too. For sugarcane both the potash and nitrogen contents are considerably higher than the phosphoric acid content.

Of the Victorian range of complete fertilisers, the one that appears to contain the best balanced mixture for orchardists and general horticultural requirements is the Horticultural Manure mixed by the "Sickle" people. This contains 3 per cent. of ammonia nitrogen, over 11 per cent. of phosphoric acid, practically the whole of which is water soluble, and 10 per cent. of potash. At its current mar-

ket price it seems to be really good value for the money.

Then there are the market garden mixtures which contain much the same nitrogen content, half of which is organic in form. The phosphoric acid content is higher, while the potash content is lower. I feel that, for a market garden manure, its nitrogen content could well be higher, but as it stands, it too, should be good value for the price, and highly suitable for general gardening work.

No. 1 Complete Manure sold by most of the fertiliser trade is another good mixed line for orchards and market garden use, but I stress in the case of these manures that the nitrogen content could well be improved. Perhaps as nitrogen is regarded as a dear element, there is a certain reluctance on the part of the trade, to increase the price through having slightly enriched the manure, and through giving it, incidentally, a greater production value.

But with the obvious monetary advantages to be gained from the use of increased quantities of nitrogen, there is an evolutionary trend abroad, and I expect that we will see the nitrogen content of all complete fertilisers steadily improved.

The Best Way to Use Nitrogen.

Of course all the nitrogen need not be applied in a complete manure. In fact, it is better, due to its solubility, to put all of it, or at least the greater proportion of it, on in the form of a top dressing just at the time when the tree can most profitably assimilate it—when the crop that it is bearing will show its value.

One man who is credited with the most productive orchard in the Commonwealth uses 2 cwts. of sulphate of ammonia every year. He works it well into the soil just at the time the fruit is beginning to set. His programme of fertilisation appears formidable and looks costly:—

1 ton blood manure, 7 cwts. super, early spring application.

2 cwts. sulphate of ammonia, 4 cwts. potash, when fruit is beginning to set.

30 cwts. lime, 1 cwt. sulphate of iron, year and year about.

His trees are 30 years old, and the extent of his orchard is $3\frac{1}{2}$ acres, which seems to prove that the smaller the orchard, the heavier the manure bill per acre, and the greater the acre production, and the acre profit.

Practical Experience.

Another man (in the Harcourt district) tells me that with the good water supply he has on hand, he can delay the application of sulphate of ammonia for two months after he has applied superphosphate. His annual use of sulphate of ammonia is increasing.

I notice that the Government Viticulturist, Mr. de Castella, is more and more emphasising the use of nitrogen,

but is careful to add that it must be used judiciously. Overdoing it will prove worse than under-doing it. Mr. A. V. Lyon, who controls the Research Vineyard for the Mildura vine-growers, urges the use of nitrogenous fertilisers to supplement green manuring. Citrus growers, too, are finding it peculiarly necessary to the production of quantity and quality, and for years now at the Berri Experimental Orchard in South Australia, most profitable yields can be expected from all test plots to which sulphate of ammonia has been applied, either as a topdressing, or as the nitrogen in a complete manure.

Western Australia, with about a fifth of Victoria's orchard area, uses practically as much nitrogen as Victoria, and experts both inside and outside the Government Department of Agriculture encourage its use.

Purity of Fertilisers.

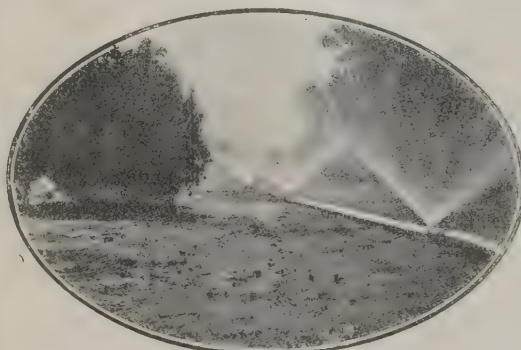
A word, before I conclude, about the value of home mixing of fertilisers. Occasionally—not often—we hear of this, but you probably know as well as I do that there is nothing in it. The machinery used by the fertiliser trade ensures the best and the cheapest mixing, the materials used are of the best, and there is never any fear

of adulteration. Quite apart from the Fertilisers Act, business to-day is so much built on prestige that no large Company with any sort of reputation behind it would willingly descend to the adulteration of its goods. A couple of years ago at the Royal Show I met a man from one of the fruitgrowing areas handy to Melbourne, who complained to me of adulteration by a fertiliser firm. It appears he had discovered an insoluble substance at the bottom of a bucket into which he had emptied a few handfuls of a mixed fertiliser to dissolve. I went into the matter with him, and with pencil and paper convinced him that he was getting entirely what he paid for, and that there was no adulteration.

A final word as to the condition of sulphate of ammonia as at present produced in Melbourne. Those of you who have used it in the past have sometimes had to complain about its moist condition. This is being overcome, and I hope before the fertiliser season is over, a dry, neutral, and free-running sulphate will be available to you. It will be slightly richer in nitrogen, and will be positively free of any of the qualities that might have militated against the earlier use of sulphate of ammonia.

Pope's New Irrigation System

Pat. Nos. 9127/22 & 21419/25



The **LATEST**,
CHEAPEST, and
BEST, for **FRUIT**,
FODDER and
VEGETABLE
CROPS.

One of many testimonials:

Pope Sprinkler Co., Croydon.
Gentlemen.

Highbury, S.A.

Having used your irrigation system on my Orange Orchard for two seasons, I consider it the most effective method of orchard irrigation I have yet heard of. The output from the pump delivering eleven thousand gallons per hour, at thirty pounds pressure, is comfortably handled by one man without the necessity of any stop during the day, and by allowing the pump to run for an hour after he leaves work, I get ten hours pumping, or one hundred and ten thousand gallons of water applied for eight hours' work, and an absolutely even distribution of the water as well, in addition to effecting a great saving in labor.

Needless to say, I should not like to have to return to the old furrow and check system of irrigation.

Yours faithfully,
L. J. WICKS.

Full particulars from any of the following:—

Pope's Sprinkler and Irrigation Coy., (Patentees)

ROBERT STREET, CROYDON PARK, S.A.

Agencies: John Danks & Sons Pty. Ltd., Sydney.

John Danks & Sons Pty. Ltd., Melbourne.

Messrs. Buzacott Ltd., Brisbane.

Messrs. Harris, Scarfe and Sandover Ltd., Perth.

New South Wales

The Irrigation Areas :: Agricultural Bureau Conference
Borers in Fruit Trees

FIFTH STATE CONFERENCE OF THE AGRICULTURAL BUREAU OF N.S.W.

IN VISITING a conference of primary producers in another State, one is more interested in studying the delegates, and in learning how far organisation has progressed than in the actual business items on the agenda paper.

The N.S.W. Conference was held at the Hawkesbury Agricultural College, Richmond. This institution, showing as it does all phases of agricultural life, is perhaps an ideal scene for the holding of such a meeting, the one drawback being that the popularity of the Conference has increased so much that it is not now practicable to accommodate all the representatives who desire to attend. Though nearly 300 delegates from the various branches attended, 200 had to be refused; it is to be hoped that at future gatherings arrangements will be made for this surplus by means of a camp or otherwise, so that the full benefit of the Conference will accrue to all who are willing to attend.

On glancing round the faces of the delegates, one is struck with the greater proportion of young men than in similar gatherings in Victoria. This must be to the advantage of the State, when the younger generation take an interest in the advancement of their particular industry, and in educating themselves to grapple with the problems that confront them in their daily occupation.

Though there was a business sheet of no less than 43 items, the most of the time was devoted to addresses on various subjects, 16 being delivered during the three days in which the Conference sat; these dealt with a wide range of subjects, and on the whole were both interesting and instructive—"The Evolution of Farm Animals," "Distribution of Native Trees and Flowers," "Conservation of Fodder" (2), "The Marketing of Primary Products Act," "Fat Lambs," "Farm Economics," "The Rabbit Menace in Australia," "Pasture Improvement," "Some Impressions of America," "The Maize Industry of Australia," "Decisions of Fruitgrowers' Conference," "Soil Management," "The Future Softwood Supply of N.S.W.," "Centralisation," "Country Women's Associa-

tion," were the subjects dealt with, so one can see there was much food for thought when one endeavored to digest all the good things placed before him.

Perhaps a word on the constitution of the Bureau will be of interest. Branches are formed in the country districts, the Department of Agriculture subsidising membership 5/- in the £ on a 5/- subscription. The salary of a full-time organiser is also paid by the Department, as is that of a lady organiser (for the women's branches), who has just been appointed. Provision is made for district and State Conferences, the expenses of the central body being paid by the branches, the levy being fixed for the current year at 2/- per member.

Among those present was the Secretary of the Country Women's Association (Miss Fitzpatrick), who, in an address, stressed the importance of the work this Association is doing in providing social relaxation for the country women and making the conditions of their home life more congenial. This has a far-reaching effect on the development of the land, and does much to prevent the drift to the city.

As the Country Women's Association intends to extend its operations into Victoria during the coming year, one can only wish them good luck, and the success to which their efforts entitle them.—Jas. H. Lang.

CURLWAA IRRIGATION AREA.

The Minister for Agriculture, referring to reports received by him as to the Curlwaa Irrigation Area, situated on the Murray River, near Wentworth, states that the year ended June 30 last has been a very satisfactory one from the growers' standpoint.

The area occupied comprises 1,950 acres of irrigated holdings, and 7,559 acres of non-irrigated land. About 1,274 acres (or 65 per cent.) of the chards and vineyards, and about 1,068 acres (or 84 per cent.) of this area are in full bearing.

The chief products

of the Area are dried fruits and Citrus, but good crops of stone fruits have been harvested, both in quantity and quality, while there has been a market at Broken Hill for considerable quantities of Pears.

Dried vine fruits turned out very satisfactorily owing to the large quantity and high standard of quality of the crops harvested, and to the fact that the drying season was ideal, enabling all the fruits to be treated in the absence of rain.

This is a matter for gratification in view of the fact that prices realised for Currants, Sultanas and Lexias have lately given a better return to the grower. The estimated value of the yield of dried fruits for the 1926-27 season is over £62,000.

Returns

from Citrus crops for last season are estimated to be close on £18,000, while the value of products other than dried fruits and Citrus, was approximately £6,400, making the total estimated value of production for the Curlwaa Area about £26,400 for the year.

During the past quarter the Curlwaa Co-operative Packing Company continued operating with their new fumigation plant, treating some of the Citrus orchards with very satisfactory results, at a cost very little in excess of the cost of spraying.

Improvements.

The Commission has carried out various works during the past year, including improvement to main roads, and the lining of certain channels with concrete.

The construction of the Abbotsford Bridge over the Murray River at the south-eastern end of the Area has advanced, and it is hoped that the time is not far distant when this desirable access to the Victorian rail-head will be available to the growers on the Area.

The sixth irrigation, the final for last season, commenced on April 6, and terminated on May 5.

The first irrigation for the coming season will probably be commenced shortly, so as to be completed before the spring buds burst, thus avoiding the watering of blocks during the flowering of deciduous trees, and assuring the ground being in the right condition at that important period.

COOMEALLA IRRIGATION AREA.

A Good Year's Progress.

The Minister for Agriculture, referring to the Coomealla Irrigation Area, states that appreciable progress has been made during the year ended June 30, 1927.

Of the total area in respect of which works have been completed, about 2,207 acres have been divided into 124 holdings of an average area of 17.8 acres, suitable for horticulture, and about 105 acres are contained in 42 residential holdings of an average area of 2.5 acres.

Farm holdings may be selected as perpetual leases, or may be purchased on terms extending over 36½ years.

At June 30, 1926, 23 holdings had been taken up, and by June 30, 1927, these had increased to 81, of which 72 were horticultural farms and the remainder residential sites.

The areas of the 81 holdings total 1,362 acres (approximately), of which nearly 1,200 acres are irrigable. Of the latter area about 1,043 acres were grubbed and cleared, and about 810 acres of the cleared land had been ploughed as at June 30, 1927.

Nearly 500 acres had been planted on 45 holdings as follows:—Sultanas, 381 acres; Citrus, 108 acres; Currants, 4 acres.

A viticultural expert who recently visited the district expressed the opinion that the first year plantings had made excellent growth, and were equal to any in the State. Such a satisfactory condition would be expected on an area so admirably suited to horticultural farming, especially vine fruits, the land being of a rich chocolate loam and having a limestone foundation varying from the surface from 2ft. to 10ft.

Water for irrigation, etc., is pumped from the Murray River by steam-driven engines.

The supply channels have been lined throughout with concrete and mortar, and the scheme also includes the construction of drainage channels, bridges, etc. A school has been established on the settlement.

BORERS IN FRUIT TREES.

Pest More Common Than Usual This Season.

Reports from fruit-growing districts indicate that the fruit tree borer, commonly called the cherry tree borer, is more common than usual this year. This borer attacks all stone fruit trees, and it is at present paying particular attention to Peach trees in some districts, says the N.S.W. Department of Agriculture.

This particular species of fruit tree borer is easily detected, more especially at this time of the year, when the trees are devoid of leaves. The pest is only a surface borer, making a tunnel under the bark about 2 or 3 inches long, but does not feed on the wood of the tree as do other boring beetles.

The point at which the borer enters the bark is easily detected by the heap of excrement and sawdust-like borings around the hole. The caterpillar uses the hole as a hiding-place during the day, crawling out during the night to feed upon the foliage of the tree. When the leaves fall from

the trees—deciduous trees are bare at the present time—the caterpillar or grub pupates in the tunnel, hatching out as a moth about October.

How to Destroy.

This pest is not very hard to get rid of, but if allowed to become numerous, the work of eradicating becomes a very tedious business. As the holes made by the borer are usually only 2 or 3 inches deep, the grubs can be easily killed by inserting a piece of copper wire into the hole, thus squashing the pest. Another method is to

this country, says the "Horticultural Advertiser."

These beetles deposit their eggs on the bark, and the minute grub tunnels through the bark into the wood of the fruit tree. Wattle trees are also attacked by these beetles. The hole made by the grub in entering soon heals over, the grub remaining inside and feeding on the wood of the tree. Under such circumstances, the difficulty of even detecting the borer's presence is great, and it can also be readily understood why no practical method of eradication can be recommended.

EXPORT OF FRUIT.

(To the Editor, "The Fruit World of Australasia.")

Dear Sir,—I read with interest the letter of "Export Grower" in your publication dated May 1, in which he states that if the Fruit Control Bill is accepted by the growers, it may be possible for the Board to achieve something effective in the direction of restraining Tasmania, which State, he states, is responsible for 99 per cent. of all the complaints regarding quality, pack, immature fruit, undersized fruit, black spot, etc.

I have been spending the past five months studying the fruit position in England, and have discussed the position with many of the leading brokers and salesmen in London and the provincial markets, as well as on the Continent, and have not had any complaint of this nature made to me. It is of course well known that a small percentage of inferior fruit comes from the Commonwealth, but in this respect I do not think that Tasmania is a worse offender than any other State. Re the shipping of what your correspondent terms inferior varieties, I think that the best judge of what varieties to ship is the shipper himself, as he should know which varieties pay to export and which do not.—Yours faithfully,

THOS. A. FRANKCOMB,
"Clifton,"

Ranelagh, Tasmania.

C/o Overseas Club,
St. James-street, London, W.1,
July 13, 1927.

SMOKING "BORDEAUX" TOBACCO.

The Americans have discovered a new use for Bordeaux Mixture, or rather, the materials of which this popular specific is made. They claim that tobacco mixed with 0.7 per cent. of bluestone and 0.03 per cent. of quicklime renders the tobacco mild and of a sweet flavour when burned.

T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

F. W. Vear

Fruit & Vegetable Salesman

Commission Agent

WESTERN MARKET
MELBOURNE, VIC.

Highest Market Rates Assured

Prompt Settlements

squirt into the hole about a teaspoonful of kerosene. A small syringe or oilcan will do the job excellently.

Besides the cherry tree borer, there are the internal boring beetles—elephant and longicorn beetles—which do a great deal of harm to fruit trees at times. These are very hard to control, as it has been found impossible to reach them with any spray. Growers will have to keep their ingredients of Bordeaux Mixture under lock-and-key if the idea spreads to

California's Fruit Industry.

Citrus Packing Houses are Well Equipped.

(By R. E. Boardman)

WITH AN AREA of 250,000 acres under Citrus fruit, and a harvest totalling 26,000,000 boxes annually, it is evident that California must give expert attention to the harvesting, packing, and marketing of this crop.

Careful attention is paid to every phase of the work, and great care is necessarily taken in the construction of packing houses. Most of these are built of concrete or brick in order to reduce danger from fire. Many of these packing houses represent an investment of \$50,000.

Before a packing house is constructed, experts are called in to report on the projected layout, having in mind the present needs and future possibilities.

and a proportion of "Okite" or sodium phosphate. The fruit is washed again, and carried by conveyers through an air blast to dry it, and it is then conveyed by continuous belts in front of girls who grade for quality, rejecting skin-marked fruit, which is discharged into bins for cartage to the by-products factory.

Messrs. Hamm, Grant and Bruner, of 607 Ferguson Building, Los Angeles, have made a special study of the layout of these packing houses and have been able to render appreciated service to the industry.

The photograph on this page gives a good idea of a modern Californian Citrus packing house. I had the pleasure of seeing over Orange packing houses at Anaheim, and La Verne,

competitive co-operative organisations, and also independent commercial firms which buy direct from the growers; and within the Fruitgrowers' Exchange itself, the various packing houses compete in friendly rivalry to achieve and maintain a reputation for quality of fruit and pack.

The wholesale dealers or "jobbers" who buy direct from the Exchange, either by private treaty or at auction, may ask for the brand from a particular packing house; they get exactly what they desire, but all orders go through the central channel. The individual grower, too, takes pride in working his property to get the biggest crops possible of high quality fruit. The packing house handling the best quality fruit will naturally get better returns than another house where the quality is not so good.

Thus co-operation does not suppress individuality, but works right back to each grower in his own grove, demanding his best skill as a producer.



Interior of an Up-to-date Citrus Packing House, Monte Vista Citrus Association, Riverside, California.

The modern Citrus packing house is so designed as to provide for a continuous operation from the entry of the fruit in the grower's lug box, passing through all the processes of washing, sterilising, drying, grading for quality, sizing, packing, and nailing down, to the stacking in the waiting railway waggons. A system of conveyers is provided for the empty boxes to be discharged, and for the fruit to be carried through a warm bath containing 5 per cent, of borax

and the Lemon packing house at San Dimas. Detailed information was courteously supplied, which will form the subject of articles in subsequent issues.

How the Crop is Handled.

With its tremendous crop of Citrus fruits, which last season returned £19,400,000, the competition between the various packing houses is very keen. Although 75 per cent. of the crop is handled by the California Fruitgrowers' Exchange, there are

The delivered value of the Citrus crop last season was £27,050,000. Included in this were freight and refrigeration charges amounting to £7,400,000. Charges for advertising and the other services rendered by the California Fruitgrowers' Exchange work out at about 2.48 per cent. of the delivered value of the fruit, made up as follows:—General services (exclusive of advertising), 2½d. a box; district ex-

change service, ½d. a box; advertising, 2½d. box on Oranges and Grapefruit, and 3½d. on Lemons.

The Work of the Exchange.

One of the outstanding activities of the Exchange, is the encouragement of closer co-operation and understanding among the various competing organisations, in order that surplus crops may be handled on a national basis. Regular export of Oranges to Europe is maintained in order to relieve the pressure on the local market; this last season, 750,000 boxes of Oranges were shipped overseas.

The Exchange receives regular market reports from its representatives throughout the United States, and is in constant telephonic communication with its District Exchanges. Orders for quantities of fruit are thus transmitted promptly, and are passed on by the District Exchange to the individual packing houses.

The payment for shares in the growers' own co-operative packing houses (as well as in the companies handling Citrus by-products which have recently been established by the Exchange) are on a revolving share basis. By this means the newcomers bear their share of the original out-

lay, and repay the pioneers for their initial finance.

To attain success amongst such keen competition, the need for perfect packing house design and equipment is obvious.

To Australian and New Zealand fruitgrowers' organisations which are contemplating packing house erection, Messrs. Hamm, Grant and Bruner, of Los Angeles, will be happy to supply information.

30 OR 40 LEAVES REQUIRED TO MAKE ONE GOOD APPLE.

The leaf area of an Apple tree is capable of manufacturing sufficient food material for a given number of Apples of good size and quality. On heavily loaded branches and trees there is often less than 20 or 30 leaves per Apple, and under these conditions the fruit is small and of poor quality. Although some American orchardists have practised removing a few Apples to increase the leaf area per fruit, until recently there were no experimental data available to indicate the exact number of leaves required per Apple. Thinning has been more or less of a guessing operation.

Horticulturists of the United States Department of Agriculture, in a

series of tests, found that different varieties vary in the relationship between the leaf area and the size and quality of the fruit. For the Grimes and Ben Davis, under the conditions of the tests, at least 30 to 40 medium-sized leaves per fruit were necessary to obtain Apples of good size and quality, and as many as 50 for the Delicious. When a smaller number of leaves was present, the fruit was not only smaller in size, but was low in dry weight, low in sugar content, and of poor dessert quality. It was found also that Apples grown with a large leaf area ripen slightly earlier than the same variety having fewer leaves per fruit.

These determinations were made by ringing or "girdling" the bark of a twig to isolate the fruit and leaves from the rest of the tree. Other investigations had shown that ringing largely prevented the passing of nitrogen and carbohydrates in either direction past the ring, thus making the fruit beyond the ring depend only upon the leaves with which it was isolated. By ringing and thinning the leaves to a definite number at varying distances from the fruit, it was found also that Apples can draw food material from adjacent leaves and leaves at a distance of 2 to 4 feet with almost equal facility.

HAMM, GRANT & BRUNER, INC.

Architects and Engineers

Specialising in the Design and Construction of

Citrus Packing Plants

Cold Storage Plants

Pre-Cooling Plants

FIFTEEN YEARS' EXPERIENCE IN CALIFORNIA.

We solicit inquiries from the Fruit Growers in Australia and New Zealand. We believe our experience with the California Fruit Growers can be made of value to the Growers in Australia.

Address :

607 Ferguson Building, Los Angeles, California, U.S.A.

References: Los Angeles Chamber of Commerce.
California Fruit Growers' Exchange
California Bank
All of Los Angeles, California.

Cool Storage of Fruit

Valuable Experiments in Refrigeration : Preservation of Canning and Berry Fruits

(Address by G. B. Tindale, B.Aq.Sc. at the Cool Stores Conference.)

FOR MY ADDRESS this evening, I shall discuss the results of some experiments carried out this season, dealing with the cool storage of such fruits as would interest this Association.

I shall commence with experiments on the storage of Williams Pears. For some seasons past, experiments have been conducted in order to study the cold storage complaint known as "scald" or "browning."

The browning generally commences at the stalk and gradually extends over the whole surface. At first the skin only is affected, but after a while the underlying flesh breaks down—the latter action being particularly rapid when the Pears are removed from store.

Naturally, perhaps, the first matter to be studied is the effect of temperature on the "browning." This has been the subject of investigation both here and in the U.S.A., and all agree that temperature of storage is in no way correlated to the trouble, for browning will occur just as readily at a temp. of 30 deg., say, as at a temp. of 32 degrees.

The next line of investigation was the effect of maturity at the time of picking. Pears are picked while hard and green, and it was thought that immaturity may have an important bearing on the matter.

This matter was first taken up by Mr. Harrison, and the test was repeated again this season on a somewhat larger scale. I may remark here that the two tests gave similar results.

For this season's export, Williams Pears were secured from the Shepparton district. These Pears were grown under irrigation, and were very fine samples. The first picking from five trees was made on the January 26, while the remaining pickings were made at five-day intervals—there being six pickings altogether. These Pears were forwarded to the cool stores, Melbourne, as soon as possible after picking, and were stored at a temp. of 32 deg. These were kept under observation, and by May 3 no scald had developed. It was deemed inadvisable to hold them any longer, otherwise they might scald on removal from store. They were accordingly withdrawn for sale; a portion of each picking, however, was retained for further observation.

Those which were withdrawn ripened up satisfactorily, excepting for about 1 per cent., which developed the browning.

After another month's storage, it was observed that the remaining Pears were beginning to scald, and within a few weeks they had all gone brown. In no way was it possible to discriminate between the various pickings, in so far as the scald was concerned.

Thus, it will be seen that neither temperature of storage nor maturity at time of picking has any bearing on the browning problem. It is known, however, that if left sufficiently long, all Williams Pears will develop the browning in store, or immediately on removal, and hence it appears that the browning is not an abnormality, but is in reality quite normal, and it represents the death of the Pear, just as internal breakdown represents the death of the Apple. The fact that the Williams Pear, if held rather long in store, frequently go brown on removal, may be explained as follows:—

The cool storage life of the various fruits is approximately proportional to the growing period while on the tree. Thus, the life of the Williams Pear would be limited compared with, say, any variety of Apple. Should then the Pear be left rather long in store, naturally it has very nearly run its course. Then, on removal from store, the remaining life activities are hastened up, and before the Pear can be put into consumption, death occurs; or, in other words, the Pear goes brown.

Other tests with Williams Pears have been directed towards testing the keeping qualities of Pears from various districts. Contrary to what might be expected, tests have shown that Williams Pears grown under irrigation in the hot Shepparton district keep much better than the same variety grown in the cooler Mornington Peninsula district. For several seasons past, Shepparton Pears have been stored in Melbourne for periods of some two or three months and then sent back to the cannery in excellent condition. So far, however, success has not attended the efforts of the Shepparton growers to export Williams Pears.

Now that a cool store has been erected at Shepparton, growers are

now in a position to arrange for prompt cooling of their Pears after picking, and hence it should be possible to build up a satisfactory export trade.

Apples.

Last season, some work was done in connection with the bitter pit problem. Growers shipping Apples quite free from pit, frequently receive advice that their Apples have arrived in a badly pitted condition. This has led to quite a lot of trouble, some claiming that faulty shipping is largely responsible, while others claim that it is inherent in the nature of the fruit.

Experiments were conducted this season to test out this matter. The experiment was carried out with Harcourt Apples, using the Cleopatra variety. The first picking from four trees was made on March 1. This was divided into four lots—the first of which was stored immediately at 34 deg.; the second lot was stored at 34 deg., a week later; the third a fortnight later; while the fourth lot was not cool stored at all, but was kept in a room at about 60 deg.

At the time of picking, no sign of bitter pit was noticeable. During the third week of May, a final examination was made. Pit had developed to quite a considerable amount in all lots. The lot cool stored immediately developed 19 per cent pit; that lot stored a week later developed 13 per cent. pit; that lot stored a fortnight later developed 11.3 per cent. pit; while the lot stored at 60 deg. developed 16.7 per cent. pit. These figures represent the average of the four trees, and the results conclusively show that the pit was inherent in the fruit, and that it was not the result of the faulty storage. They also show that even immediate storage at 34 deg. will not arrest the development of pit.

It should be pointed out here, however, that the severity of the pit was much greater in the case of the lot stored at 60 deg. compared with any cool stored lot.

The second picking was made on March 22, three weeks after the first picking. It was then observed that of the Apples remaining on the trees quite an appreciable proportion were now pitted, while the windfalls were badly pitted. After storage, the percentage of pit was greater in the case of the second picking (this percentage including those pitted at the time of picking).

Various theories

have been put forward to explain the development of bitter pit. A great deal of prominence has been

given to the poisoning theory, and this season an experiment was carried out to test out the matter. Laterals bearing Apples were severed from trees, and nourished with solutions containing traces of poison. The poisons had the effect of severely burning the leaves, but in no instance was bitter pit produced. It would seem that environment during growing period is related to pit, for it is noteworthy that in England pit is reported to be quite uncommon, whereas here, especially in W.A., it is reported to be very prevalent.

Cool Storage of Plums.

This season it was intended to ship a small lot of Plums to England, to test out the carrying capacity of various varieties, but space could not be secured, and after lying in Melbourne for some three weeks, they were forwarded to Java and arrived in very good order. The Plums were all secured from the Doncaster district, and the following varieties were forwarded:—Grand Duke, President, Golden Drop, Reine Claude de Bavay, Blood and October Purple. Reports to hand state that the condition of the Plums, especially the flavor and the varieties sent, were a great improvement on anything so far imported into that country.

In carrying out the trial, special attention was paid to the following:—Picking at correct stage of maturity—Plums picked immature never ripen up satisfactorily, and so never develop their fine flavor—hence the Plums were picked when just starting to go soft. They were then despatched at once to the cool store and cooled. After cooling they were then packed.

Soft fruits such as Plums and Peaches cannot withstand the weight of much super-imposed fruit, so for the above trial stout cardboard containers were used, each of which held about 7 lb. Plums. Eight cartons were then placed in each crate. Check lots held here at a temperature of 36 deg. kept their condition for nearly three months and then ripened up remarkably well. The European varieties proved to be rather superior to the Japanese varieties.

Berry Fruits.

Experiments have also been conducted this season with the storage of the highly perishable berry fruits. These fruits may be readily held if frozen, but on thawing out they almost immediately collapse, and at any rate their flavor is lost.

To cool store berries like other fruits is equally impracticable, for they would very readily become a mass of mould. However, by the addition of sugar, we are able to cool store berry fruits in a remarkably fresh condition for periods of many

months. I have with me samples of Raspberries, Loganberries, and Black Currants which have been stored since last berry season. These have been stored in enamel buckets, using nearly 1 lb. of sugar for each pound of fruit, the sugar and fruit being added in alternate layers. The berries have been stored at a temperature of 25 deg. F. At such a temperature, the mixture does not freeze (hence the flavor is retained) and at the same time such a temperature prevents fermentation, etc. On removal from store, the mixture will not go mouldy owing to the presence of the sugar, but after a period of many days, it may start to ferment, producing a wine.

Such a means of storage (which is equally effective with Apricots, etc.), would undoubtedly be of considerable value to jam factories, etc., for the expensive procedure of pulping could be done away with, and furthermore, growers need not fear a temporary glut, for they could store them on their own account. The ad-

tice should prove extremely helpful.

For that reason, and not that the writer claims either special wisdom or special skill in writing, the following notes have been put down.

Some years ago a series of articles appeared in "The Fruit World," by Prof. McAlpine (accompanied by some excellent photos. of fruit trees), in which he strongly advocated leaving long laterals, and stating (if I remember correctly), that many orchardists were like many surgeons—"too fond of the knife."

The articles appeared for some months, but no one, I think, took up the other side and advocated harder pruning, although in the district in which I live (Somerville, Tyabb, and Hastings), most of the orchardists go in for decidedly heavy cutting.

As regards young trees, I have understood it was necessary to cut back hard to make a strong framework capable of bearing heavy crops later on, and also it was often necessary to cut back hard in order to obtain a well opened out framework low down in a tree.

As regards older trees, personally, Prof. McAlpine's principle appealed to me, and I tried the plan of leaving long laterals.

However, while that plan may answer well in rich soils, I hardly think it succeeds so well in a poorer soil, as there seems to be a tendency for the tree to "over-crop," and produce small fruit, especially in a dry summer; also some tendency for long laterals to "go blind" at the end nearest to the tree.

To some extent this might be prevented perhaps, by heavier manuring or more frequent cultivation of the soil, but the experience of many local growers appears to be that by hard pruning, they obtain medium crops of medium-sized well-colored fruit each season, which seems to be the most satisfactory kind of crop from every point of view.

In America they seem to arrive at this result, partly by means of the summer thinning by hand of a crop, but as this work requires skilled labor for a considerable period, and is a great expense, it appears to be the practice in Australia to do the thinning more by reducing the fruiting wood at the winter pruning time.

No doubt I have not stated all sides of the case fully, but if I have contributed anything which may open up the question to fuller consideration it will have been worth while.

(We should be very glad to publish the views of other experienced orchardists on this important question.—Ed. "F.W.")

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS. LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

dition of sugar is really not an extra expense, for no matter how used, the addition of sugar is ultimately a necessity.

PRUNING AND FRUIT PRODUCTION.

(Contributed.)

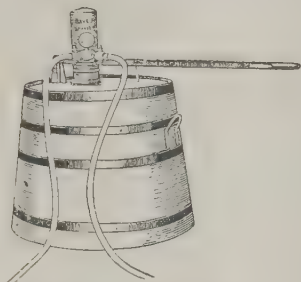
AFTER READING in "The Fruit World" for June, the report of Mr. T. H. Grant's paper on the decline of Apple production, in which he blames partly the system of hard pruning, I thought it would be useful if growers would contribute their experience, as there is no doubt that it is a subject of very great importance to the Apple-grower. Unfortunately there seems to be a tendency among growers to act like "Brer Rabbit," who, "lay low and said nuffin"! Whereas a healthy discussion of methods of orchard prac-

SHOW VISITORS! You are Cordially Invited To Visit Our Stand at the Royal Show

where

The BAVE-U Pioneer Australian Power Sprayer
Will be in Operation Daily

Stand No. 97, Smith Street



The BAVE-U Hand Sprayer

This Pump is mounted on 80, 60, 50, 40 or 30 gallon vats as required. The Pump is fitted with pressure gauge, and is tested up to 150 lbs. pressure. The barrel of the Pump is of solid drawn brass tube, 3 ins. in diameter, and the piston rod of the pump $\frac{1}{4}$ in. diameter. Fitted complete with rods, nozzles, cut offs, two hoses, each 20 feet long. Thoroughly recommended as a first-class hand machine.

The 'BAVE-U' Duplex Sprayer on 4-wheeled Transport

This Machine, like all Bave-U Machines, is fitted with Our Patent Suction Pipe Strainer. This Strainer is declared by a number of users to be "worth its weight in gold." It is fitted outside the vat, between the vat and the pump. The Strainer is thus easily cleaned, and being made of copper, will not rust. The AGITATOR leaves nothing to be desired, all spraying mixtures being thoroughly stirred all the time. For spraying Oils this Agitator is perfection. Same engine as "Duplex Sprayer" illustrated opposite.



"BAVE-U" DUPLEX SPRAYER ON 4-WHEELED TRANSPORT.

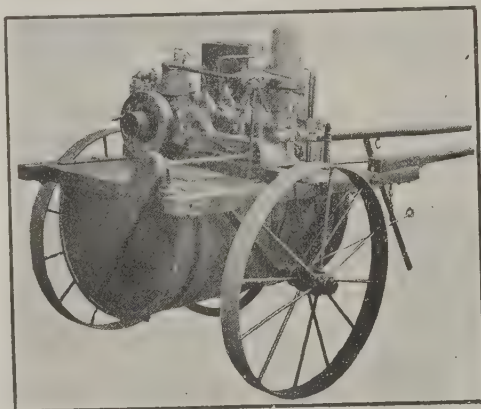
A Dependable Motor Pump, always ready for service, will soon pay for itself by the losses averted.

A broken "Bave-U" Crankshaft has never been known.

—o—

Merbein.

I must take the opportunity of informing you what a useful piece of Machinery the "Bave-U" 4 H.P. Sprayer Engine is. Apart from Spraying, I pump water, cut all home firewood, driving a 26-inch saw, and my latest use for it is to bore posts.—W. H. TICKELL.

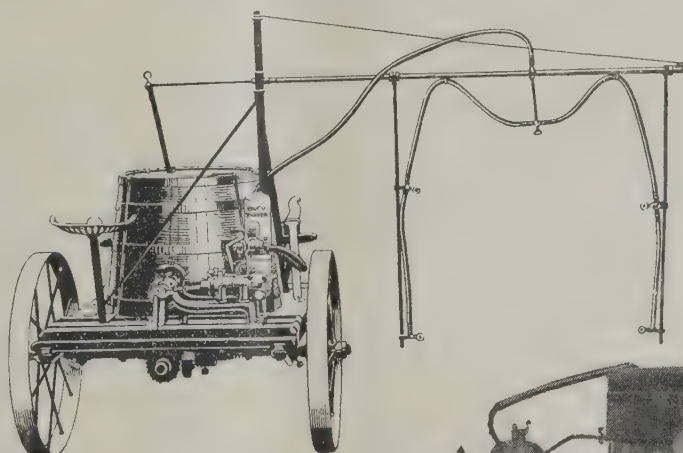


"BAVE-U" POWER SPRAYER.
Mounted on Perfect Balance Type of Transport.

Efficiency and Durability are the Successful Features of The "BAVE-U" Power Sprayer

When buying a Motor Sprayer these essentials must be considered or you may be "let down" at the critical period of your spraying

Since the first "Bave-U" was manufactured 20 years ago we have continued to make improvements, until now the "Bave-U" is the last word in efficiency.



"BAVE-U" Tractor Sprayer

This Sprayer is used for the spraying of vines, etc.: Power is obtained from the wheels of the transport while in motion.

The Sprayer develops a pressure up to 250 lbs., operating 5 nozzles simultaneously.

Can be changed into a Power Sprayer at any time by adding the engine.

—o—
Write for Illustrated Folder.

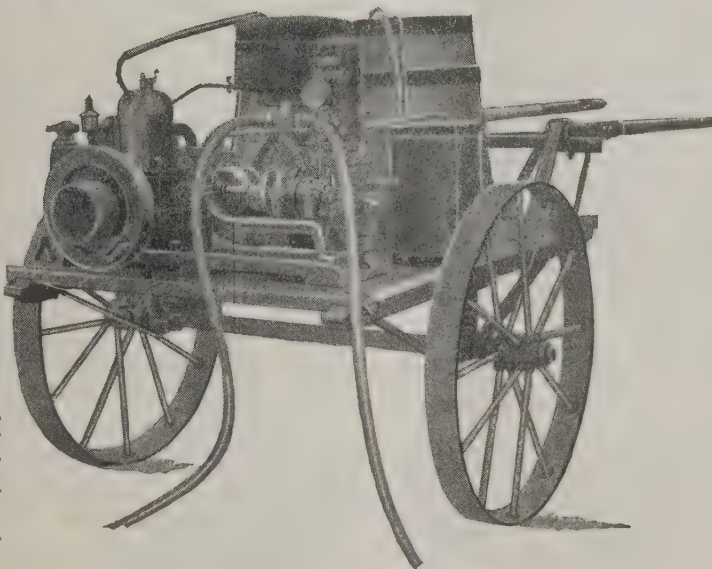
"BAVE-U" Duplex Sprayer

This Sprayer has two pumps working side by side, and gives a perfectly steady spray.

Patent ball-jointed eccentric rods are fitted to all Bave-U Sprayers.

Fitted with a 4-horse Power Engine, water cooled, and fitted with pulley for general use. Can be used for other purposes without removing from cart.

A Guarantee goes with each Machine.



"BAVE-U" Duplex Sprayer.

Manufactured by—

RUSSELL & CO.
Box Hill - Melbourne - Victoria

The Handling of Export Fruit in South Africa

All Fruit is Pre-cooled. Operations of the Control Board.

Interesting Address by Dr. W. J. Young.

SPEAKING at the Cool Stores Conference at Croydon on August 9, Dr. W. J. Young, Associate Professor of Bio-Chemistry, Melbourne University, who recently visited South Africa under the auspices of the Council for Scientific and Industrial Research to study the export of perishable products, in association with Dr. Franklin Kidd and Mrs. Kidd, of the Cambridge Low Temperature Research Station, gave some interesting particulars in regard to the fruit industry, particularly in regard to packing and shipping.

Deciduous fruits, said Dr. Young, are commercially grown chiefly in the Western Cape Province, not far from Cape Town. A certain amount of deciduous fruit—a little over 3 per cent.—is also grown in the Transvaal, around Pretoria, where two-thirds of the Citrus fruit is produced. Fruits of both kinds are grown around Port Elizabeth, in the Eastern Cape Province, while Oranges and tropical fruits, Pineapples, Mangoes, and so on, are grown in the vicinity of Durban, Natal.

The climate varies considerably in the different localities. Around Cape Town, which is very much in the same latitude as Sydney, there are winter rains and dry summers. Durban is in about the same latitude as Brisbane, and there and in the Transvaal there are summer rains, with dry winters, while the Citrus fruit is being picked. Most of the fruit in South Africa, both Citrus and deciduous, is grown under irrigation. Although they do not advertise it to the world as we do, they have very severe droughts in South Africa, and the rainfall is often less than ours.

About 1½ million trays of deciduous fruits were exported in 1925-26, 52,000 trays coming from the Transvaal. Of the total, 55 per cent. was Pears, 22½ per cent. Grapes, 10 per cent., Peaches, 8 per cent., Plums, Apples, only 8,000 boxes. Of Citrus fruits, about three-quarter million boxes were exported in 1926, and this quantity is definitely increasing.

Picking, grading and packing are done almost entirely by native or half-caste labor, each hand being paid 1/6 or 2/- a day. Dr. Young said he found some difference of opinion as to whether this was really cheap or not, because the natives require two or three white overseers, and the picking and work generally are very

slow. In deciduous fruits all the grading and packing are done on the farm. Co-operative packing sheds have been tried, but it was found that they were not successful, because it meant further handling and carriage of the fruit. Grading is done by hand (usually by half-caste or colored people), simply passing the fruit through a ring for size-grading; it is then packed in trays in a single layer, each fruit being wrapped in paper and packed in wood-wool. The trays are 18 in. by 12 in., or 18 in. by 24 in., the depth varying slightly according to the type of fruit that is being packed. Grapes are packed in the same way, each bunch being wrapped in paper and packed in wood-wool in a single layer. Apples and Citrus fruit may be packed in the bushel-and-one-third cases, as we do. Very few Apples are grown. In the Transvaal, near Pretoria, Apples were seen being wrapped and packed in trays in single layers for the Rhodesian market, where they fetched 15/- a tray.

With Pears, the principal difficulty is the arsenic spray, as only a limited amount of arsenic is allowed by the British authorities. In some cases the spray is simply wiped off, but in others the Pears are actually washed in hydrochloric acid (½ per cent.), then wiped dry and packed in trays. When the fruit reaches the port of shipment, samples are taken and actually analysed by the Government experts, the consignment being held back in cool storage until the result is made known. If the amount of arsenic exceeds the percentage permitted, the consignment is not allowed to be exported.

Each tray is marked with the grower's distinctive mark, and the boxes are nailed up with half-inch cleats at each end, the cleats being differently colored according to the different kind of fruit.

Citrus fruit is frequently packed in co-operative packing sheds. It is seldom sweated, but in some cases it is treated by the "Brogdex" Borax method; in one big Citrus grove just coming into bearing, a large plant has been installed for this operation.

The Ports.

Cape Town is the principal port from which fruit is exported; Citrus fruits and Pines also go from Durban and Port Elizabeth. Deciduous fruit from the Western Province is mailed to Cape Town in ventilated

louvre trucks, the journey usually occupying one night. From the Transvaal deciduous fruit goes to Johannesburg, where it is inspected and cooled down in the cold store of the Rand Cold Storage and Supply Co. Ltd., and then travels to Cape Town in specially designed refrigerator railway trucks. The 1,000-mile journey may take five days, and in summer very high temperatures are experienced.

Citrus fruit travels in ordinary trucks, ventilated. As this travels in the winter, some damage occurs through frosts, which are very severe in the high lands over which the railway passes between the Transvaal and the Cape.

Pre-cooling.

All fruit in South Africa is pre-cooled before it is put on board ship. In Cape Town there is a large new pre-cooling station into which all the fruit which comes to that port is put before it is shipped. In Durban there is an arrangement with a privately-owned cool store some way from the docks in which the fruit is cooled, and then transported to the docks in refrigerated trucks. At Port Elizabeth there is no wharf available for overseas boats, which anchor under the shelter of a breakwater, and it is proposed in future to use refrigerator lighters to convey the fruit to the boats.

Inspection.

As soon as the fruit arrives at the port it undergoes inspection, even that from the Transvaal which has previously been inspected at Johannesburg. Five per cent. of each grade of fruit is examined; if that proves unsatisfactory, another 5 per cent. is examined. If that is still unsatisfactory, the fruit may be either regraded or rejected. There is a large staff of inspectors employed under the Horticultural Division of the Department of Agriculture. The chief inspector is a scientifically trained man with a University degree, who spent 18 months at the Low Temperature Research Laboratory at Cambridge.

Inspection costs the grower 5/- a ton, or about 1d. per tray for deciduous fruit, and 4d. case for Citrus. Pre-cooling also costs 5/- a ton, 1d. a tray or 4d. a case. The deciduous fruit from Johannesburg has an extra inspection, so Transvaal growers pay more, but they have the advantage that their fruit gets on the market before that from the southern districts around the Cape.

The Pre-cooling Plant.

At the present time the whole of the fruit export of South Africa is under the administration of Mr. E. A. Griffiths, Director of the Low Temperature Station—a branch of the

Division of Horticulture of the Agricultural Department. Mr. Griffiths designed the new pre-cooling station at Cape Town, which was built by the Department of Railways and Harbors. It is a large three-storied building situated right on the quay-side, and has 72 cool chambers, situated on the first and second floors. The lower floor can be used for ordinary merchandise. Each chamber is fitted with long-distance thermometers which can be read in the engine room. They are cooled by a system of batteries so arranged that the cold air current may be concentrated, if required, on any chamber or set of chambers for rapid cooling. The temperature of the brine in the batteries is maintained so that the air passing into the chamber is kept at the temperature to which the fruit is to be cooled, so that there is no risk of any freezing of the fruit, quick cooling being brought about by the very rapid current of air through the chamber. It is possible to change the air in any chamber four times in a minute; the cooling of a chamber filled with fruit takes from 24 to 48 hours.

The railway trains carrying fruit are run right into the lower part of the store into a cooled air-lock, where the fruit is unloaded on to skids on wheels; 5 per cent of the fruit is inspected in the air lock, and the skids are wheeled on to electrical traversers, of which there are six, two on each floor, running down either side of the building. These take the skids to a lift which carries them to the floor required, where other traversers take them to the allotted chamber. After cooling they are wheeled out on the wharf-side of the building, still on the skids, and are moved by the traversers to the hoists which lift them into the ship's hold; so that the fruit is not handled from the time it is put on the skids until it arrives in the hold. In comparison with the old method, this saves about seven handlings, and is very much quicker in loading a ship.

Each chamber is about 47ft. x 15ft., and will hold 12 skids, each carrying 5 tons of fruit.

The Cape Town pre-cooler cost approximately £250,000. It is proposed to put up a smaller cooler on similar lines, in Durban, right on the wharfside, to cost £80,000.

That was one work of the Low Temperature Research Station in Cape Town. Another improvement was the designing of the refrigerator railway truck. These are found much more effective than the American type, with ice at each end. The trucks are fitted with overhead ice tanks, have double roofs as protection

against the sun, and the walls are insulated with powdered cork. A special form of door is used, 6 to 8 in. thick, and there is an arrangement for carrying off the condensation water so that the cases do not get wet. The trucks are charged with ice, and allowed to stand for 24 hours before being loaded. They have proved very successful indeed. In the five days' journey from the Transvaal to the Cape, in the heat of summer, the temperature of fruit (previously pre-cooled) was found to rise only 4 or 5 degrees.

Controlling Bodies.

In the first place there are local co-operative societies which are composed of the growers in various districts; there are about 28 of these. They are authorised by Act of Parliament, and their duties consist in supplying packing materials, manures, and such things required by the grower in some districts (particularly citrus) in providing co-operative packing sheds; in selecting representatives for the Co-operative Fruit Exchange, which is the central body, and in negotiating loans and mortgages. They are authorised to collect a levy of 5/- a ton on fruit exported, which is portioned out between the Co-operative Fruit Exchange and the Control Board.

The central body, known as the Co-operative Fruit Exchange, has two divisions, the Citrus Exchange and the Deciduous Fruit Exchange. This body co-ordinates the work of the co-operative societies, arranges shipments with shipping agents, and proposes in future to appoint an agent in London to whom fruit will be consigned, and who will deal with the marketing at that end.

There is also a Government body, the Perishable Products Export Control Board, of six members, three nominated by the Governor-General, one of whom is chairman, and has a casting vote; he is a paid whole-time officer. These members need not be growers at all. Then there are three representatives of the three industries—citrus fruit, deciduous fruit, and eggs and poultry. These three are nominated by the industries which they represent; thus there are only two fruitgrowers on a Board of six. The Act provides for the addition of one representative for any new industry which may attain to sufficient importance to justify representation on this Board.

The Duties of the Board

are the control of the export of fruit, to obtain estimates in advance from each fruitgrower of the quantity of which he is likely to ship, to make provision with the shipping companies for space for that fruit, and to

allot accommodation in the ships in the order of priority of arrival of the fruit at the port. Should an exporter fail to ship three-quarters of the amount he estimated, the Control Board has the power, if it cannot fill the space with other fruit, to make the grower pay for the space he should have used.

Expenditure is met from the levy. The Fruit Control Board has an executive officer who has complete control of the handling of the fruit from the receiving station in the pre-cooler until it reaches the ship's hold; he is responsible for the unloading of the train, the provision of sufficient skids, for arranging accommodation in the pre-cooler, and then for the manner in which the fruit is stacked in the hold. He (through his officials) personally supervises the packing and loading of the fruit in the holds.

In reply to question, Dr. Young said he did not know whether control had proved a financial success to the growers. The Deciduous Fruits representative on the Control Board was not satisfied with the amount of representation growers had on the Board. At that time the Act was proposed in Australia, and he suggested that growers here should seek more representation than they had in South Africa. The South African experience had shown the necessity for some sort of control, instead of the haphazard way things are done here. They had the advantage there of having only one State and one set of authorities to deal with.

Asked whether the pre-cooling of fruit had been justified by improved condition on the overseas market, Dr. Young stated that all the growers, as well as the officials, were quite pleased with the results, and were quite sure it was justified. At first there had been some opposition from growers, but now they were all convinced that it had made a big difference to their trade.

Exports of deciduous fruits from South Africa in the season 1925-26 were as follow:—

Varieties.	Trays.
Pears	888,263
Grapes	355,624
Peaches	156,255
Plums	129,398
Nectarines	17,010
Apricots	8,295
Apples	8,074
Pines	48,962
Other Fruits	6,124

1,618,705

"The first farmer was the first man, and all historic nobility rests on possession and use of land."—Emerson.

An Australian Industry for Fruitgrowers.

EVERY EFFORT is being used by the Government and people to establish industries in Australia, or where industries are already established, to encourage the people to help them along by personal support.

The fruitgrower is fortunate in being able to, in most instances, select his requirements from those manufactured in Australia.

There is an impression amongst many of our citizens that any article made in Australia is inferior to those imported from other countries. This is quite a false impression, as proved by the manufacturers of implements, machinery, and, in fact, many other lines. One of these particular lines is that of SPRAYING MATERIAL.

Some 20 years ago the fruitgrowers of this country commenced using the prepared arsenate of lead to control codlin moth and other leaf-eating insects. At that time the only preparations available were imported lines, but within a very few months enterprising Australians commenced manufacturing in Australia.

Amongst the pioneers was Mr. Harry Blyth, who started manufacturing at Elsternwick.

The article he prepared was of high standard, and growers demonstrated their satisfaction by using "Blue Bell," and the sales increased rapidly.

Many efforts have been made to find substitutes for arsenate of lead, and in this connection Mr. S. C. Jary, B.A. (Advisory Entomologist, West Midland Province and Harper Adams Agricultural College, Newport, Salop) published a report last March of some experiments he had been conducting, in which he stated, *inter alia*, "It would be very unwise to draw any definite conclusions from the results obtained, save to say that they do point to lead arsenate being more satisfactory than non-arsenical washes where caterpillars are concerned."

The fact having been established that the use of arsenate of lead is imperative, the growers must be sure to choose the right material; having done this to be particular that the material is applied in a thorough manner, also that the time of its application is correct.

By careful attention and the application of his trained mind, Mr. Blyth has been able to build up this business until it has become the largest of its

kind, and holds the record for sales of arsenate of lead in the Commonwealth. In view of the many imported lines, this is a record to be proud of.

Quite recently Mr. Blyth formed his business into a public company of £40,000 capital, of £1 shares; 20,000 of these shares were issued. Fruitgrowers were given an opportunity to take shares in the company. Many have already availed themselves of

ket "Blue Bell" lime sulphur and "Blue Bell" nicotine sulphate, and is also dealing in other lines and chemicals.

It is anticipated that other lines will be placed on the market from time to time, but following Mr. Blyth's policy, this will not be done till they have been thoroughly tried out. "Blue Bell" carries a guarantee of quality, and thoroughly used gives satisfactory results.



Right Stage for First Codlin Moth Spray, Slightly Reduced.

the opportunity. The business was so well thought of that the capital was largely oversubscribed. Mr. Blyth holds a considerable number of the shares, and is one of the Directors, and so the growers will continue to have the benefit of his long experience. The other members of the Board of Directors are Messrs. A. C. Morley, H. Prell, A. J. Pearson, and N. S. McNab.

In addition to "Blue Bell" arsenate of lead, the company has on the mar-

Blyth Chemicals Ltd. are pleased at all times to receive enquiries from growers in regard to spraying problems, and their field representatives are always available to assist growers in any way possible.

The Victorian distributing agents are F. W. Prell & Co., 31 Queen-street, Melbourne, who will be pleased to answer any inquiries concerning the company or "Blue Bell" products, and supply prices, etc.

THE CODLIN MOTH

Ensure Your Fruit Crops by Spraying Thoroughly

Every Moth destroyed in the spring is worth hundreds later in the season



THE CODLIN MOTH.

1. Codlin Moth about to lay eggs on leaf and in calyx of Apple.
2. Life Cycle.—Eggs, caterpillar or larvae, chrysalid and moth (perfect insect).
3. Showing Caterpillar (enlarged) in Apple.
4. Chrysalid and cocoon in bark (enlarged).
5. Codlin Moth (enlarged).

The above is another reproduction of one of the many colored illustrations in the "FRUITGROWERS' & GARDENERS' CHART."

ORDER FOR CHART

Manager,
FRUIT WORLD PTY. LTD.,
Bank House, Bank Place,
Melbourne.

Dear Sir,

Please forward to the undermentioned address, post free.....copies of "Fruitgrowers' and Gardeners' Chart of Insect Pests and Diseases," for which I enclose remittance. Price, One Guinea (21/-) each.

Name.....

Address.....
(Full postal address)

Beware of Black Spot

Do Not Neglect Your Spraying

Black Spot attacks both fruit and leaves. On the fruit it forms dark green, often circular, velvety patches and generally causes the fruit to crack. On the leaves it appears as round or oval spots



BLACK SPOT (*Venturia inaequalis*).

1. "Green tip" stage of bud (enlarged). Spray with Bordeaux.
2. "Pink" stage. The important stage. Spray for Black Spot with Bordeaux or Lime-Sulphur.
3. Spray again 10 to 14 days with Bordeaux or Lime-Sulphur, after stage (2) (Before calyx closes, spray with Arsenate of Lead to kill Codlin grubs).
4. Effect of Black Spot on fruit and leaves.

The above is a reproduction of one of the many colored illustrations on the "Fruitgrowers' Chart of Insect Pests and Fungus Diseases."

The Fruitgrowers' Chart of Insect Pests & Diseases

(Compiled by Experts.)

CONTAINS:

56 COLORED ILLUSTRATIONS OF
Insect Pests and Fungus Diseases in various stages.

Full description of all Insect Pests and Fungus Diseases,
Plants or Trees attacked, General Appearance, and
Treatment.

Other Valuable Data is given as well as the Formulae for Burgundy Mixture, Bordeaux Mixture, Lime Sulphur Nicotine, Red Oil and many other preparations.

Beautifully illustrated in 4 colors on art paper, linen-backed and mounted top and bottom

A Valuable Work of Reference

PRICE 21/-, Post Free

Send your Order NOW to the

Fruit World Pty. Ltd.

BANK HOUSE, BANK PLACE, MELBOURNE

South Australia

Valuable Experimental Work.

District Orchard Notes.

Record Vintage Predicted.

BALHANNAH PRUNING COMPETITION.

Pruning for Fruit Production.

On Saturday, July 16, the members of the Balhannah branch of the Agricultural Bureau of S.A., together with members of the Central Board and visitors, met at the orchard of Mr. H. N. Wicks for the purpose of continuing the pruning contest commenced two years ago.

This contest is probably without a parallel in the State, if not in the Commonwealth, inasmuch as the usual factors which apply to the majority of pruning contests are not the chief points in this test. The aim of the competitors is not speed; they can take as long as they like over their work without deleting anything from their marks, and briefly the aim of each contestant is to produce the largest aggregate yield of fruit for four years, and at the same time leave his tree after the fifth pruning, in good heart and shape, and in such a condition that would point to its continuance of profitable fruit-bearing.

Altogether there are twelve contestants, and this season they have entered upon their third year of competition. At the commencement of the contest, two years ago, a plot of twelve Jonathan trees was selected, and also a block containing as many Rome Beauty. These trees are just coming into their prime, and cannot be classed as in full bearing, but should be nearing that period of usefulness at the termination of the contest. The trees were as similar in general condition and size as it was possible to find them in this orchard at the time of the commencement of the test, and each contestant had to draw his tree in each variety by lot, and has to handle each of these two trees for the period of the test. No summer pruning is allowable, and pruning is conducted each season at approximately the same date.

The contestants have to prune for five years. During each of the first four seasons the yield from each tree is carefully weighed and placed to the credit of the respective competitor. At the termination of the fourth season's fruiting the total weight from each variety for the whole four seasons is arrived at, and the contestants then have to prune their trees for the fifth and last time, after which the trees are judged. At this point a

competitor stands to lose 25 per cent. of his total yield results if the judge considers that he has flogged his tree to get fruit only, and has left same in bad condition for future usefulness.

It will, therefore, be readily seen that the main object of the test is to produce an even and uniform yield of fruit, and leave the trees in such a condition as to warrant them continuing to perform in this manner. The extremely keen interest shown in the proceedings indicates that there will be much excitement as the contest proceeds. Speed of work does not come into consideration at all, and the contestants may take as long as they like to prune their trees without forfeiting any points. Mr. G. Quinn, Chief Horticultural Instructor, has been asked to judge the trees at the termination of the test. The contestants are:—Messrs. W. Clark, F. Camp, A. Peacock, A. Peacock, Jun.; H. R. Peacock, A. Wiedenhofer, W. Rollbusch, R. James, F. T. Norsworthy, R. Norsworthy, C. Grasby, and H. B. Pitt.

At the termination of the pruning, a demonstration was given of a new tractor orchard disc cultivator which was the centre of much interest, and in spite of the rather inclement weather, the spectators demanded to see just what the implement would do, and kept the driver of the tractor very busy for a good half-hour. The results were very favorably commented upon. Afternoon tea was then supplied by Mrs. Wicks and Mrs. W. W. James, after which a vote of thanks was accorded to the members of the Central Bureau, Government Officers, and the Secretary of the Royal Horticultural Society, Mr. H. J. Finniss, for their attendance, and also to Mr. and Mrs. Wicks.

The Central Bureau was represented by Mr. P. H. Jones (Chairman Central Agricultural Bureau), Messrs. R. H. Taylor and H. N. Wicks.

The Department of Agriculture was represented by the Chief Horticultural Instructor (Mr. G. Quinn), the Government Orchardist (Mr. R. Fowler), and Mr. E. Leishmann, Inspector.

Mr. Finniss, Secretary of the Royal Horticultural Society, and Mr. Murdoch, of the River Murray Dried Fruits Association, were present, and were very keenly interested in the proceedings.

ORCHARD PRACTICES AT RENMARK, S.A.

Spraying.—The usual spraying practice for early spring and late winter is to eradicate red spider on Pear and Prune trees. The best results I have had for this pest are from lime sulphur, which I find better than red oil. Red oil has given very good results for the cleaning up of brown scale on Orange trees.

Three Orange trees were sprayed on Mr. F. J. Olorenshaw's block under the supervision of Mr. Murray, of the Vacuum Oil Co., during last season, and the results were very satisfactory. Hitherto the use of red oil spray on Orange trees was always accompanied by loss of leaves, but this spraying test came up to expectations without the usual loss of leaves and cleaned up the trees in a very satisfactory manner.

Later on, growers of Sultanias will have to get busy with the acid iron treatment for black spot, and at the first sign of buds swelling, this spray will be in use. The strength to use is 8lb. sulphuric acid 20lb. sulphate of iron to 10gal. water. Suspend the sulphate of iron in a bag in the barrel containing the water, and when dissolved add sulphuric acid slowly.

Some growers swab this mixture on the canes, but this is too slow, and does not get the spores hidden on the ground. If a brass spraying outfit is used it must be washed thoroughly every night. I have used a little "Success" hand spray for several years before getting a larger one.

Last spring we had a very virulent attack of black spot, but fortunately the hot winds of late October cleared it up. Every grower must have noticed evidence of it on his canes during pruning time this winter. The spores are there now awaiting favorable spring conditions to germinate. The acid-iron winter treatment kills the spores, the summer treatment with Bordeaux mixture merely checks them temporarily.

If a grower cannot spray at the right time, and the vines shoot ahead of him, the sulphate of iron can be omitted without harm to the young buds. I have used 8lb. acid to 10gal. water until the first leaves were as large as a shilling without harmful effects.

Manuring.—There is no standard manurial practice in Renmark, each grower battling along on his own lines, according to his idea of what is required. This problem is one that has troubled growers for a long time because of the lack of knowledge of our soils. To get some authentic information as to our soil requirements the Agricultural Bureau of Renmark

moved to get a comprehensive analysis of all our soils made. This soil survey has now commenced by the Waite Research Institute, working in conjunction with the Commonwealth Scientific and Industrial Research Institute, and before long we should have some interesting information.

Broadly speaking, our river soils are deficient in organic matter and phosphates, and fairly well supplied with potash.

My own practice for a number of years has been to sow Peas for the April irrigation, putting in 1cwt. superphosphates per acre with the Peas. Peas sown without super cannot be compared with those where this fertiliser has been used. The Peas are ploughed under in August, or as soon as they are in full flower.

Tick Beans give a much better bulk of organic matter than Peas, but owing to the fact that they mature much later than Peas I have given up planting them, my land being of a stiff nature, the extra drain on the soil moisture is too severe. When the Peas have been ploughed under, I put 3cwt. super per acre, and top-dress the whole land with gypsum, using about 15cwt. to a ton per acre. Gypsum is easily procured in the district, and costs little.

In this way I get a complete fertiliser, Peas supplying nitrogen (a good crop is said to be equal to 6 or 7 cwt. of sulphate of ammonia), super supplying the necessary phosphates, and gypsum liberates the potash and makes it available to plant life.

Green manuring is more the exception than the general rule in the district, simply because growers as a whole are not aware of its absolute necessity on most of our soils, but with the publicity likely to eventuate from the soil survey now in progress, I think it will soon be the rule instead of the exception.

Pruning has nearly all been finished now, which is somewhat earlier than usual, owing to the first irrigation having commenced late in July instead of late in August.

Our last year, from June, 1926, to June, 1927, has been exceptionally dry, the rain gauge registering only 43in., instead of an average of 10in. Consequently the subsoil has not received any moisture from our usual winter rains.

The small vine roots are now on the move, and if they do not find moisture serious results will affect our next crop.

The past year has been an exceptionally good one for all vine fruits; the drying season was favorable, and on the whole a first-class sample of raisins and currants was harvested. Owing to the demand for fresh currants from the distilleries, a great tonnage was disposed of in this way,

instead of the dried article finding its way into an already glutted market.—Oscar Weste, Renmark, 1/8/27.

Nuriootpa, S.A.—Pest Control.—In this district, with an average rainfall of 21in., fungoid diseases, with the exception of Apricot shothole, are comparatively easy to control, provided spraying is carried out thoroughly and at the right time. My apricots were sprayed soon after the leaves had fallen, with Bordeaux mixture 6—6—40, and will be sprayed once more just before the flowers open. Peaches and Japanese Plums are sprayed with the same mixture when the buds are swelling. If delayed curl leaf may result.

For fusiladium (Black Spot) in Apples and Pears, I spray once during the pink stage. Dunn's Favourite Apple and a few varieties of Pears are never sprayed, as they appear to be immune from Black Spot. As the lime is often impure, I use an excess over the usual formula.

For Peach and other aphides I use black leaf 40 at the rate of 1 pint to 100 gal. Woolly aphis, which at one time was one of the most destructive pests, appears to be rapidly decreasing. It is, I believe, kept in check by a native parasite, and not *aphelinus mali*, which was only introduced here late last summer.

For Codlin moth, which in warm climates is by far the most destructive pest and the most expensive to deal with, at least 5 or 6 sprayings with arsenate of lead are necessary, except for early maturing varieties. I use 4 to 6 lb. of arsenic paste to 20 gal., the weaker mixture for the early and late sprayings. This treatment should be supplemented by bandaging and bark scraping, which at one time were compulsory in S.A. Some growers have cut out the calyx spray, as they consider it quite unnecessary. A few years ago, during the first spraying, I left out one row of Apples as a check. The difference between the crop on this row and the rest was so marked that I became convinced that it is at all times unsafe to omit the calyx spray.

Manuring.—High-grade super is drilled in the autumn, at the rate of from 2 to 4 cwt. per acre. In addition, trees, which are not making vigorous growth, receive about 1½lb. Sulphate of Ammonia during spring. Very little green manuring is done in this district. The application of artificial manures promotes a rank growth of weeds, including burr clover and trefoil, which when ploughed in provide plenty of humus.

The principal fruits grown are

Apricots, Pears, Peaches and Prunes for drying and canning, whilst Apples are grown extensively for export and cool storage, the principal variety being Cleopatra. In Apricots no variety has been found to compare with the Moorpark under local conditions for size and quality.

Next to wine, fruit is the most important product of this district. Whilst some growers are extending their plantations, a few are replacing their trees with vines, owing to the lower cost of production and the ready market for Grapes at a remunerative price.

Pruning, spraying and cultivation are the chief operations during September and October.

The general crop of fruit last season was light. Severe windstorms reduced a light crop of Apples to almost a complete failure. Apricots bore fairly well, but much of the fruit was damaged by Rutherglen fly.

In dealing with this pest, I obtained very promising results by suspending a few strips of honey fly-paper in each tree, which attracted and destroyed a large number of flies. As these fly-papers cost not more than 1/- per doz, I consider that this treatment will prove to be a cheap means of keeping the Rutherglen fly under control.

The fruit industry in this district received a set-back a few years ago, when the local branch factory of the S.A. Fruitgrowers' Co-operative Society closed down. Fruit for canning has now to be sent 50 miles per rail to Adelaide, which does not improve its quality. The factory, which is situated in the centre of one of the very best fruitgrowing districts, and connected with up-to-date cool stores, at one time employed 130 hands for a long period. The products had a high reputation, both in England and throughout the Commonwealth, and when the factory again operates, either under private enterprise or co-operation, a great impetus will be given to the fruit industry of Barossa.—A. B. Robin, Nuriootpa, S.A.

SOUTH AUSTRALIAN VINTAGE FORECAST.

Another Record Predicted.

Over Fifteen Million Gallons.

The Government Statist (Mr. W. L. Johnston) intimates having obtained preliminary returns of the recent vintage from a number of the leading vignerons in the State, who represent about 70 per cent. of the total production. From this source Mr. Johnston forecasts that the vintage will approximate 15,173,000 gallons of wine

for beverage and distillation. Last year 13,074,874 gallons were made, of which 7,176,976 gallons were classed for distillation. This year's forecast represents an increase of 2,098,000 gallons, or 16 per cent. on last year's figures, which were a record. The River Murray districts are estimated to yield 5,058,000 gallons, as against 4,572,000 gallons last year, and all other districts 9,215,000 gallons, against 8,502,000 last year.

Previous Vintages.

The following table indicates yields of previous vintages in South Australia and the total for Australia:—

	S. Aust.	Australia.
1920-1	7,893,345	11,014,220
1921-2	6,370,310	8,542,573
1922-3	8,653,579	11,427,793
1923-4	10,756,538	14,663,881
1924-5	10,502,381	13,299,290
1925-6	13,074,874	—

Wine Exports.

For the eleven months ending May 31, 1927, the exports of wine to overseas countries totalled 1,960,451 gallons, valued at £407,863, compared with 1,099,123 gallons, valued at £185,134, for a similar period last year.

ORCHARD NOTES FOR SOUTH-EASTERN DISTRICTS—SEPTEMBER.

(By C. H. Beaumont, Orchard Instructor.)

This month and the next will be very busy ones. There is always an abundance of work in an orchard, but it is essential that some work must be done at the correct time if it is to give results.

Ploughing should be completed and the soil worked to a fine tilth, especially close to the trees or vines, so that, if necessary, the hoe must be used to finalise the work. If heavy rain falls it will be advisable to put the cultivator to work as soon as the surface will allow.

If there are any cuttings about, get rid of them at once, they are one of the reasons why we have such continuous trouble with various pests.

Pests.—The earlier fruits need watching; see that there is no aphid on the peaches or cherries; if any are noticed they must be dealt with at once; sprays or dusts containing tobacco are the best remedy. If the soil will not carry the spray outfit, obtain a duster; it will pay for itself the first year if it saves the crop. Bordeaux mixture must be used to prevent curl leaf and shothole; they may be prevented, but cannot be cured. The time to use the spray is just before the buds open; this will apply to fuscladium or scab on the

Apple and Pear, as well as for the earlier fruits.

For codlin moth use arsenate of lead as a spray or dust just after the petals fall; this is the most important time. The second application should be 10 to 14 days later. A spreader in water sprays adds to the efficiency.

Do not allow any other work to interfere with spraying, it is the insurance for the coming crop.

Newly planted vines should be examined for cut worm; arsenate of lead will put a stop to their work.

Vines must be watched for oidium

Fruit Shipments United Kingdom and the Continent

W. D. PEACOCK & CO.

24 Southwark St., London Bridge,
LONDON, S.E. 1.

AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and economical on the market —
We manufacture a complete range —
of Sprays for the Orchardist —
including Arsenate of Lead (paste and powder), Lime Sulphur, Red Spraying Oil, Copper Soda Mixture, Benzole Emulsion, Spray Spreader etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES
Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

and downy mildew, and should be dusted or else sprayed at the first sign. These diseases spread very fast if the season favors them.

Fertilisers.—If the trees require fertilisers, apply them now; it is good practice to get them in deeply. Bone-dust and super in equal proportions will usually do all that is requisite; use the complete manure if potash is needed; the quantity will vary, 4lb. to 10lb. per tree, according to size.

Plant out new Citrus trees; see that they are free from disease before taking delivery of them. It is easier to prevent disease than to cure it.

Strawberry beds should be quite clean and worked to a fine tilth. Lime sulphur spray or lime and sulphur dust will prevent mildew. A small hand duster saves material and does good work in one-quarter of the time taken by hand spreading.

Grafting will be completed; whichever method is used, the main factor is clean work. Do not graft in the wet. Have everything ready and finish each tree at one operation. A healthy stock and a healthy scion will produce a good tree in short time if the work is done cleanly. Scions will unite with the cambium or inner bark of the stock if they are placed together, and then well waxed and covered to prevent the ingress of air and weather. It is well to know that the scions are suitable to the district and to the stock on which the work is being performed.

Vines also should be finished grafting, and although this is done under the surface level, the vines require the same care as the trees. Special care is necessary in knowing whether the varieties are suitable.

Do not forget fruit in the cool store.

Order cases ahead in order to have a supply on hand when required.

NORTHERN DISTRICTS.

Scab on the Apple and Pear.

Apple and Pear trees should be sprayed with Bordeaux mixture when the buds are swelling, in order to destroy spores of Apple and Pear Scab, which are present to infect the trees with these diseases. At this stage a 6—4—40 mixture should be used, and where, in wet portions of the district, it is desirable to apply a "pink" spray also, a 5—5—50 mixture should be applied. Whichever formula is followed, always ensure that sufficient lime is used to entirely neutralise the mixture, and never use hot or tepid bluestone solution in preparing the spray.

Downy Mildew and Anthracnose.

In the vineyard, spraying will be one of the most important operations. All vines should receive a first spraying, when the buds are bursting, as a precautionary measure against downy mildew and anthracnose. The mixture used should not contain more than 6lb. of bluestone to 40gal. of water, even though extra lime be added, for under certain atmospheric conditions the excess of residue deposited may have an injurious effect on young foliage.

Throughout the orangery, orchard, and vineyard land should be well cultivated, after ploughing and harrowing.

Cold Storage Assist Fruitgrowers

Important Developments in Connection With Cool Storage of Canned and Dried Fruits.

THE SUCCESS which has attended the cold storage of Apples and Pears with corresponding benefits to the producers is so well known that it is no wonder that cool stores are now erected in so many fruitgrowing centres. This experience is particularly true of Victoria and New Zealand, though the other Australian States are rapidly recognising the commercial importance of erecting cold stores in the orchard centres. The dried and canned fruit sections of the fruit industry are also turning to cold storage to assist them in some of their problems.

Canned Fruits.

The canning factories are realising more than ever the advantages of cold storage to smooth out the peak loading of their equipment, particularly in the handling of such fruit as Peaches, Pears, Pineapples, etc., and it is interesting to note in this respect that the Shepparton Co-operative Cannery have installed in conjunction with their canning plant a store with a capacity of 40,000 cases.

The Ardmona Co-operative Canning Co. have just completed arrangements for the erection of a 50,000 case store.

The cool store adjacent to the cannery enables the canners to hold their fruit; thus permitting them to spread the canning season over a longer period. To attempt to keep any of the canning fruits without cold storage facilities, of course, would be disastrous.

Another aspect of this business of particular importance is the fact that the percentage of good fruit is considerably increased, and this means more dozens of tins production to the ton.

Messrs. R. Werner & Co. Pty. Ltd., Burnley-street, Richmond, who are installing the above-mentioned plant at Ardmona, have taken a most prominent part in assisting the cold storage development throughout Australia and New Zealand, will be pleased to supply details in this connection.

Preserving Dried Fruits in Cold Storage.

Important tests just completed by the Victorian Department of Agriculture have been most effective in regard to the preserving of dried fruits in cold storage. Experiments were commenced by the Department towards the end of last year. Twenty-

four 56 lb. boxes of dried fruit of uniform quality were purchased and examined for insect pests and then divided into eight lots. Four lots were fumigated and the others were left untreated. One lot of the fumigated and one of the non-fumigated were then stored as follows:—(a) In an ordinary commercial warehouse; (b) in a clean room free from contamination from outside sources; (c) in cool store at 34 degrees F., and (d) in a cool store at 25 degrees F.



Cool Store at Cudlee Creek, South Australia.
(Refrigerating Machinery supplied by R. Werner & Co. Pty. Ltd.)

Kept Five Months.

After four and a-half months, the fruit was taken out. It was allowed to stand without examination for another two weeks to enable any insects that might have remained dormant during storage to develop.

Then it was examined. The fruit that had been stored in the commercial warehouse and in the clean room was good, but considerably contaminated by insect excreta and webbing, while odd berries were completely eaten out.

The cool-stored fruit looked as fresh as new season's fruit, and was free from excreta and webbing.

The fumigating tests showed that while such treatment killed insects then present, it did not prevent later infestation due to hatching out of eggs not destroyed during fumigation, or to further attacks from outside sources.

The cost of cool storing a box of dried fruit for five months is about 1/11 $\frac{1}{2}$. Storage under ordinary warehouse conditions costs 6d. Thus the cost of eradicating insect pests by cool storage methods is 1/5 $\frac{1}{2}$ a box of

56 lbs., or less than a third of a penny a lb. But as the quality of cool stored fruit is distinctly higher, it would command a much higher market price.

It is not necessary for us to deal at length with the advantages Apple and Pear growers have derived from cool stores. A few years back they were periodically faced with glutted markets, but the advent of cool store has meant a great uplift to the business of fruitgrowing. Many stores have been erected by co-operative associations and private individuals.

Finance.

The matter of finance is, of course, important, but producers now have

the opportunity of borrowing the necessary capital from the Government under an Act of Parliament, or from the established financial institutions, it being necessary, of course, to provide for interest and sinking fund to pay off the indebtedness over a period of years, ranging from ten to fifteen years.

Growers are invited to visit Messrs. R. Werner & Co.'s works, situated in Burnley-street, Richmond, who will be pleased to supply details in connection with the erection, costs, finance, etc.

Visitors to the Royal Show are also invited to view the instructive display of cold storage equipment to be staged by Messrs. R. Werner & Co. Pty. Ltd., at the forthcoming Royal Agricultural Show in Melbourne.

In addition to Messrs. Werner & Co.'s own exhibit in the same pavilion as Messrs. J. S. Corden Ltd., in the Show Grounds at the corner of McCracken and Lobb streets, an exhibit will also be made in conjunction with the Department of Agriculture's exhibit in the Agricultural Hall.

Refrigerated Fruit Transport.

The View of a Ship's Engineer.

Pre-cooling Essential.

(Address by R. C. Pidgeon at the Cool Stores Conference)

When asked to read a short paper to your gathering, I must confess that I have found it difficult to touch on matters that would prove of interest, and also on subjects that have not already been rather fully discussed.

You fruitgrowers know how to till your land, plant your trees, keep the orchard in good order, properly pick and pack your fruit, and yet, having done all this well and to the best of your ability, you are always haunted with the fear of loss from the time the fruit goes into cold storage, until it reaches the consumer on the other side of the world.

I suppose most of you have, at some time or other, suffered losses, and it is my object to review some of the causes, so that it may help, in some small way, to obviate them.

It is only human nature to blame the other fellow when anything goes wrong, and so that you may not be in a position of having the cause of failure thrown back on you, it is vitally necessary that you should have your fruit picked, graded and packed in the best possible manner, so that, when it is passed into cool storage you can conscientiously say, "I have carried out my end of the work well."

Land Storage.

If you have losses in your own cool store, you can lay the blame either to faulty packing, the fruit being too ripe at time of packing, unsuitable varieties for cool storing, and lastly, unsuitable temperatures maintained in your store.

For argument's sake, let us assume that you have a well insulated cool store, good refrigerating plant, and a good engineer, yet you have losses.

Every engineer knows, that to carry fruit successfully over any period, he must maintain steady temperatures, and confine the variation to a limit of from 2 deg. to 4 deg. Fahrenheit.

To cool down a chamber to 32 deg. and allow it to rise to 38 deg. or 40 is fatal. Yet this is happening day after day in our own stores.

Chief Cause of Loss.

These rises in temperature are often caused through faulty insulation during periods when the refrigerating plant is stopped, but, to my mind, the most fruitful source of trouble is the intermittent filling up of a cool chamber.

Say, for instance, that you have a chamber that will hold 4,000 cases. The engineer reduces the temperature to about 32 deg., and a supplier comes along with, say, 1,000 cases.

The temperature, naturally, goes up, but is soon reduced again.

After a period, along comes another supplier with his 1,000 cases to go in to the same cool chamber, and this is where a whole lot of your trouble begins. You have 1,000 cases already cooled down, and you open up the chamber and dump in another 1,000 cases of warm fruit.

What is the result? Up goes the temperature, and a possibility of the original 1,000 cases sweating. The temperature is again reduced, and held until another supplier comes along with his parcel of fruit, which runs up the temperature, and so this see-sawing goes on.

The last man to fill up the chamber does not run any risk, but the first man in has his parcel subjected to rather violent changes of temperature, which, under no circumstances, can do any good.

We know that that happens in every cool store, and we must look for a remedy.

You orchardists must load intermittently; you cannot be expected to come along all at one time, with enough fruit to fill one chamber.

To remedy this defect

I would suggest that the temperature of a chamber never be reduced below 40 deg. to 44 deg. Fahr., until it is full, then get to work and reduce the whole to whatever degree you require, and maintain it with a variation of only, say, 3d.

The difficulty, of course, could be obviated by having a small chamber used solely for precooling, passing the fruit on to the main store when properly chilled, but this would mean extra capital expense, and additional handling, with consequent increased operating costs.

Time will not permit me to deal with other phases of possible loss in your own store, so that we will assume now that your fruit has been well picked, well packed, and the cool storage all that could be desired.

Overseas Transport.

The fruit is sent to the oversea steamer, and you naturally expect a good return for your labour, yet many have had the disastrous experience of receiving debit notes instead of cheques.

You naturally blame the ship, or the ship's personnel, that carried your fruit, but I want to point out that in the majority of cases you are quite wrong. I am speaking now from practical experience as a ship's refrigerating engineer, in the overseas carriage of fruit.

Let me say right away that it is my firm opinion that no fruit should be placed aboard ship for export that has not been pre-cooled. I know I will raise a storm of protest from some quarters, but if we all study the problem with an open mind, then I have no fear but that you will be of the same opinion.

I want to tell you that a ship's refrigerating plant is not installed to do chilling work—it is not placed in the ship to reduce temperatures of fruit or other material from atmospheric temperature. It is only of sufficient capacity to maintain temperatures of previously chilled fruit or other cargo.

Many a ship leaving our shore is well on its way to Colombo or the Cape before the temperature you desire is reached, so you can easily imagine the had effect on your parcel of fruit that was taken out of a store at 32 deg. Fahr., then allowed to rise and not reach that temperature again for, say, three weeks later.

If all the fruit that was loaded into any one steamer were pre-cooled this would not happen.

How a Steamer Loads.

To fully understand the position let us follow one of the mail steamers around the Australian coast whilst she is loading fruit.

Starting from Sydney, where perhaps a small consignment is taken aboard, the hatches are battened down and the vessel proceeds to Hobart. During the run from Sydney to Hobart the hold is cooled down, but when Hobart is reached the hatches are opened and a large consignment of non-precooled fruit is taken aboard, and stored up against Sydney's cooled fruit, causing the temperature to rise to anything up to 70 deg. Fahr., while loading.

Having finished loading at Hobart, the hatches are again battened down and the vessel comes on to Melbourne with no possible hope in the world of reducing the temperature of the Hobart fruit during the short run.

Arriving here the hatches are opened up again and a mixed lot of warm and pre-cooled fruit is placed aboard, all to the detriment of the latter.

This same procedure goes on in Adelaide and Albany, or Fremantle, and it is the Western Australian shipper who has the best end of the stick every time, because when his fruit is loaded the hatches are not

opened again, and the temperatures are steadily reduced.

When we know the violent fluctuation of temperature that the fruit is subjected to, is it any wonder that we are constantly receiving cables from London of bad shipments arriving?

Give a vessel all precooled fruit at every port, and you will go a long way towards cutting some of your present-day losses.

Conditions in the Hold.

I want to point out the great difficulty a ship's engineer has of reducing temperature of warm fruit.

From the bottom of the lower hold to the under side of the 'tween deck is, on the average, say 30ft., with a width of, say, 60ft. Now, I ask you what an engineer ashore would say if fruit were packed warm in a cool store 60ft. wide and 30ft. high. The task is next door to impossible.

Then again, with that extreme height, it is not possible under the Brine Circulation System, to maintain an even temperature throughout the hold, even though galleries be constructed to allow of air to pass through, and relieve the weight.

Carbon Dioxide.

One of the worst problems the ship's engineer has to contend with in handling a fruit cargo is the accumulation of carbon dioxide gas.

As I have already mentioned, a ship is well over the Indian Ocean before desired temperatures, which arrest the ripening process, are reached, and during that period the carbon dioxide gas accumulates very rapidly.

We now know that an excess of this gas is responsible for a lot of the brown heart with which some of our apples are affected.

If fruit were all precooled before going aboard, low temperatures could be maintained right away, and this evil reduced to a minimum.

You may ask, "Why don't we experience this trouble in our land stores, cooled by direct expansion?"

The gas is given off by the fruit, but an excess is prevented by the opening and shutting of the doors which allows this gas to flow out at the bottom and be replaced by clean air at the top.

But the construction of a ship's hold does not allow of the gas being taken off in this manner, and unless mechanical means are taken to remove it, there will always be danger from this source.

The Lot of a Ship's Engineer carrying a fruit cargo is not, you will see, a happy one, and I think he is too often blamed for losses when we should have looked elsewhere for the trouble,

I have endeavoured, in my foregoing remarks, to show that many of the losses on shipments of fruit which we now have would become non-existent if precooling were made compulsory for all, and feel sure that the results would amply repay the little extra expense entailed.

We are too prone to blame the shipping companies for our losses, but I would argue that it is our duty to put our own house in order first, by shipping only first-class fruit, true to grade, and, above all, precooled.

TASMANIA

Leading Australian Firm of Fresh Fruit Exporters.

Manufacturers IXL Jam and Canned Fruits.

Hop Factors—Largest Cool Stores for Hop Storage in Commonwealth.

All Orchard Supplies available at all times.

Agents for—

Associated Evaporated Apple Manufacturers, London Assurance Corporation, Federal Steam Navigation Co. Ltd., Scottish Shire Line of Steamers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

Mr. Pidgeon stated that the accumulation of carbon dioxide was very much more marked in the ship's hold than in a land store, because it had no chance of getting out of a closed hold. "In 1913," he continued, "I had an opportunity of carrying out an experiment in connection with a cargo of Apples from Vancouver to Australia. Before leaving Sydney I secured permission to instal a small exhaust fan in the hold to extract the carbon dioxide. We carried ordinary galvanised pipes along each side of the hold, and about twice a week started up the engines and pumped out the carbon dioxide. The cargo was loaded at Vancouver; we were held up at Wellington for four weeks owing to a maritime strike, and again at Sydney for three of four weeks; after 12 weeks in the holds, the fruit was landed at Millis Point wharf without a single case being condemned. This shows that the accumulation of carbon dioxide can be overcome if the shipping companies are willing to carry out this simple operation."

With regard to loading warm fruit, Mr. Lang asked if it would carry satisfactorily if a separate hold were allotted to each port, and then battened down. Mr. Pidgeon said allotting a separate hold to each

port was a good idea, but the fruit must be pre-cooled; without that, the best engineer in the world had no chance of cooling if down under three weeks. Years ago fruit was carried at 40 to 42 degrees without serious loss, but there was no big variation in temperature. That was the secret of success in cool storing fruit.

Mr. Tindale very heartily supported Mr. Pidgeon's conclusions, and urged growers to take greater advantage of the practical experience of such engineers. Some growers considered that because their fruit arrived in England not actually unsaleable, it was in good condition. He had made special studies of varieties like the Jonathan, in cool stores in Melbourne. Jonathans arrived in Melbourne from country centres in very hot weather, perhaps in open trucks, and the temperature of the fruit itself was up to 85 degrees. When sampled, these Apples were found to have lost all their freshness, the juice had gone, and they were almost pulpy.

If such fruit were loaded hot, the temperature in the centre of the hold might be up to 70 degrees; and when the Apples arrived in England, although not actually broken down, they would have lost all the freshness they should have, compared with Jonathans stored for six weeks on land. If we were to meet American competition, we must send fresher Apples. We should be able to do that, as the American Apples which competed with ours were themselves months old.

Mr. Lipscombe expressed the opinion that if we were to make a thorough success of oversea export, pre-cooling before shipment should be made compulsory. It was no use sending one lot pre-cooled and another uncooled. The small extra cost of pre-cooling would be amply repaid by the extra prices realised on the London market.

Mr. Ward remarked that the Department would deal sympathetically with a request for experiments in pre-cooling, especially if the growers were prepared to supply the fruit for the purpose.



(GIBBS, BRIGHT & CO.,—See page vi.)

Land Clearing by Machinery

Modern Methods Save Labor and Expense.

Trewhella Implements are World-famous.

NOT THE LEAST of the difficulties which the early farming pioneers had to face was the problem of removing huge trees and many-rooted stumps from the land they wished to crop. Australians are noted for their ingenuity in finding an easier way to do things, and the old methods of axe and saw which satisfied our ancestors for so many centuries have gradually been replaced by more up-to-date ways.

Among the early settlers to arrive in Australia was the Trewhella family, who met with the usual trouble of getting their land cleared.

as the "Monkey" jacks, and include those of 8 and 10-ton capacity. The 8-ton "Monkey" jack was designed for grubbing work, and has proved especially useful for grubbing low down roots and stumps. With the great strength of its pull, plus the advantage of being provided with spears, it saves much of the root-cutting which is otherwise necessary when using the smaller jacks. Land workers generally find it of advantage to have power in reserve, and because of this fact the 10-ton "Monkey" jack was designed, embodying the good features of the previous

jacks and adding sundry improvements, which have given it an unique place in the estimation of users.

For tree and stump-pulling, the "Monkey" grubber has special advantages, doing the work much quicker than the jacks. The "Monkey" does its best work when the ground is too soft or wet to use a jack or similar implement. It is generally recommended as the best and cheapest for the farmer, as in addition to pulling out almost any tree or stump, it can be used as a winch for many purposes.

The largest machine in this grade, and one which is of particular value for a big grubbing job or a contractor, is the "Monkey" horse grubber. All the implements previously mentioned are worked by hand, but for this a horse is needed. The illustrations clearly show its power and usefulness.

It should be noted that the words "Wallaby" and "Monkey" are registered as trade marks, and as applied to land clearing implements, are the exclusive property of Messrs. Trewhella Bros. Pty. Ltd. The machines thus named are all guaranteed.

Messrs. Trewhella Bros. have received many appreciative letters from the users of their implements. One of their large "Monkey" tree-pullers was a constant source of interest at the British Empire Exhibition, at Wembley. Interesting and well illustrated booklets, giving full details of the various implements, may be had free on application to the head office at Trentham, Victoria. A full range of the firms implements will be on view at their stand at 91 Smith-street, Show Grounds, at the forthcoming Royal Agricultural Show in Melbourne.



"Getting the Pull" on a big stump with the Trewhella "Monkey" Horse Grubber.

When afterwards one of the members of the family entered the engineering profession, and later, with a brother, started saw-milling, he got the idea for the first Trewhella "Jack," which proved itself wonderfully effective, not only for handling the logs in the saw-mill but also for grubbing the land on the old home farm. This was the genesis of the many implements now world-famous under the Trewhella name.

A Variety of Uses.

Lifting operations, tree-pulling and root-grubbing are only some of the uses of the different machines now manufactured by Messrs. Trewhella Bros. Pty. Ltd., of Trentham, Victoria, and Birmingham, England.

"Wallaby" jacks are those designed for 2½, 4 and 6 ton lifts. They are variously suited for log-rolling and clearing land of timber. The larger-sized implements are known



"Out."—The Stump shown above successfully grubbed with the Trewhella Horse Grubber.

Queensland

Restrictions on Import of Fruit Trees. Biologist's Report
Orchard Notes.

ORCHARD NOTES FOR SEPTEMBER.

The Coastal Districts.

SEPTEMBER is a busy month for the fruitgrowers in the coastal districts of this State, as the returns to be obtained from the orchards, vineyards, and plantations depend very largely on the trees, vines, and other fruits getting a good start now.

In the case of Citrus orchards—especially in the southern half of the State—it is certainly the most important month in the year, as the crop of fruit to be harvested during the following autumn and winter depends not only on the trees blossoming well, but, what is of much more importance, that the blossoms mature properly and set a good crop of fruit.

This can only be brought about by keeping the trees healthy and in vigorous growth, as, if the trees are not in this condition, they do not possess the necessary strength to set their fruit, even though they may blossom profusely. The maintenance of the trees in a state of vigorous growth demands—first, that there is an adequate supply of moisture in the soil for the requirements of the tree; and, secondly, that there is an adequate supply of the essential plant foods available in the soil.

Conserve Moisture.—With respect to the supply of moisture in the soil, this can only be secured by deep and systematic cultivation, excepting in seasons of good rainfall or where there is a supply of water for irrigation. As a rule, September is a more or less dry month, and when it is dry there is little chance of securing a good crop of fruit from a neglected orchard.

If the advice that was given in August regarding the conservation of moisture in the soil has been carried out, all that is necessary is to keep the soil stirred frequently, so as to prevent the loss of moisture by surface evaporation. If the advice has been ignored, then no time should be lost, but the soil should be brought into a state of good tilth as quickly as possible.

Where there is a supply of water available for irrigation, the trees should receive a thorough soaking if they require it. Don't wait till the trees show signs of distress, but see that they are supplied with an adequate supply of moisture during the

flowering and setting periods.

It is probable that one of the chief causes why Navel Oranges are frequently shy bearers in the coastal districts is that the trees, though they produce a heavy crop of blossoms, are unable to set their fruit, owing to a lack of sufficient moisture in the soil at that time, as during seasons when there is a good rainfall and the trees are in vigorous growth, or where they are grown by irrigation, as a rule they bear much better crops. The importance of maintaining a good supply of moisture in the soil is thus recognised in the case of this particular variety of Citrus fruit.

Manuring.—When the trees show the want of sufficient plant-food—a condition that is easily known by the color of the foliage and their weakly growth—the orchard should be manured with a quick-acting, complete manure, such as a mixture of superphosphate, sulphate of ammonia, and sulphate of potash, the plant-foods which are soluble in the water contained in the soil and are thus readily taken up by the feeding roots.

Although the above has been written mainly in respect to Citrus orchards, it applies equally well to those in which other fruit trees are grown.

Where the land has been prepared for Bananas, planting should take place during the month. If the plantation is to be made on old land, then the soil should have been deeply ploughed and subsoiled and brought into a state of perfect tilth prior to planting. It should also receive a good dressing of a complete manure, so as to provide an ample supply of available plant-food. In the case of new land, which has, as a rule, been scrub that has been recently fallen and burnt off, the first operation is to dig the holes for the suckers at about 12 ft. apart each way. Good holes should be dug, and they should be deep enough to permit the top of the bulb or corm of the sucker to be 6 in. below the surface of the ground.

Take great care in the selection of the suckers, and see that they are free from beetle borers or other diseases.

As a precaution it is advisable to cut off all old roots and to dip the corms for two hours in a solution of corrosive sublimate, made by dissolving 1 oz. of this substance in 6 gallons of water.

In old Banana plantations keep the ground well worked and free from weeds and remove all superfluous suckers,

When necessary, manure—using a nitrogen, and phosphoric acid, such as a mixture of meatworks manure complete fertiliser rich in potash, and sulphate of potash, one of the former to one of the latter.

Pineapples can also be planted now. The ground should be thoroughly prepared—viz., brought into a state of perfect tilth to a depth of at least 1 ft., more if possible—not scratched, as frequently happens; and when the soil requires feeding, it should be manured with a complete manure, which should, however, contain no superphosphate.

Old plantations should be kept in a good state of tilth and be manured with a complete fertiliser in which the phosphoric acid is in the form of bones, basic phosphate or finely ground phosphatic rock, but on no account as superphosphate.

The pruning of Custard Apples should be carried out during the month, leaving the work, however, as late in the season as possible, as it is not advisable to encourage an early growth, which often means a production of infertile flowers. If the weather conditions are favorable, Passion vines can also be pruned now, as if cut back hard they will make new growth that will bear an autumn crop of fruit instead of one ripening during the summer.

Grape vines will require careful attention from the time the buds start, and they should be regularly and systematically sprayed with Bordeaux mixture from then till the time the fruit is ready to color, in order to prevent loss by downy mildew or anthracnose.

Where leaf-eating beetles, caterpillars, or other insects are present, the trees or plants on which they are feeding should be sprayed with arsenate of lead. All fruit-fly infested fruit must be gathered and destroyed and on no account be allowed to lie about on the ground, as, if the fly is allowed to breed unchecked at this time of the year, there is very little chance of keeping it in check later in the season.

The Granite Belt, Southern and Central Tablelands.

Where not already completed, the winter spraying with lime-sulphur should be finished as early in the month as possible. Black aphid should be fought wherever it makes its appearance by spraying with a tobacco wash, such as black-leaf 40, as if these very destructive insects are kept well in hand the young growth of flowers, leaves, wood, and fruit will have a chance to develop. Woolly aphid should also be systematically fought wherever present, as once the trees are in leaf it is much more difficult to treat.

The working over of undesirable varieties of fruit trees can be continued. The pruning of Grape vines should be done during the month, delaying the work as long as it is safe to do so, as the later the vines are pruned the less chance of their young growth being killed by late frosts. Keep the orchards well worked and free from weeds of all kinds, as the latter not only deplete the soil of moisture but also act as a harbor for many serious pests, such as the Rutherglen bug.

Grape vines should be swabbed with the sulphuric acid solution, when the buds begin to swell and just before they burst, as a protection against black spot and downy mildew.

New vineyards can be set out, and, in order to destroy any fungus spores that may be attached to the cuttings, it is a good plan to dip them in Bordeaux mixture before planting. The land for vines should be well and deeply worked, and the cutting should be planted with one eye only out of the ground and one eye at or near the surface of the ground.

In the warmer parts which are suitable for the growth of Citrus fruits, the land must be kept well cultivated, and if the trees need irrigating they should be given a good soaking, to be followed by cultivation as soon as the land will carry a horse without packing.

In these parts fruit fly should be systematically fought, as it will probably make its appearance in late Citrus fruits and Loquats and if this crop of flies is destroyed, there will be every chance of the early crops of Plums, Peaches, and Apricots escaping without much loss.—“Queensland Agricultural Journal.”

QUEENSLAND AND VICTORIAN FRUIT TREES.

The Biologist's Report.

No Alteration of Restrictions.

IN CONNECTION with the restrictions of the Queensland authorities on the importation of fruit trees from Victorian nurseries, owing to the supposed presence of the Crown Gall or “Hairy Root” disease, the Biologist of the Victorian Department of Agriculture (Mr. C. C. Brittlebank) visited Queensland during July, and inspected a number of orchards in company with the Queensland Plant Pathologist and other Departmental officers, of the Northern State, and conferred with the Queensland Under-Secretary of Agriculture. Mr. Brittlebank has furnished a report to the Director of Agriculture, which reads as follows:—

Mr. Brittlebank's Report.

“Arriving at Wallangarra, I was met by the Plant Pathologist and Quarantine Officers of the Agricultural Department of Queensland.

“A joint inspection of the first consignment of nursery stock was then made.

“The various bundles upon being opened were found to be from at least three different nurseries. Two bundles from black soil, two from grey sandy loam, and one from red soil. The whole contained 750 trees.

“Out of this number the Queensland officials rejected 102 trees owing to a natural development of fibrous roots natural to the Northern Spy stock, when grown in rich soil. This abnormal root development is the so-called ‘Hairy-root.’

“The rejections were from black soil grown, two bundles 57 and 35, or a total of 92. Two bundles containing trees grown in sandy grey soil, rejections none, all being passed as clean. One bundle grown in red soil contained 10 trees which were rejected, making a total of 102 out of the consignment of 750, or a percentage of 13.6.

“Notwithstanding this heavy condemnation, the rejects were well grown and had made good and healthy growth during the past growing season.

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

“Many of the rejects were taken by the Queensland Pathologist for further examination and cultural work, that is, the isolation of the bacterium said to be present, and which they allege causes the abnormal growth of roots upon the ‘Northern Spy’ stocks.

“Up to the present this organism has not been isolated by the Queensland officials, the rejections being made upon the appearance only, or rather upon the opinion of the person examining the trees.

“Proceeding to Stant'horpe, many orchards were examined; a separate report of this will be given in a few days.

“At a conference held in Brisbane with the Under-Secretary (Mr. Graham), the Director of Horticulture (Mr. Williams), the Plant Pathologist (Mr. Simmonds), and myself, after long discussion the Under-Secretary refused to alter the present conditions under which Victorian trees may enter Queensland, and he suggested that the Victorian Nurserymen submit samples (in bundles of six each) of the trees which they intend to forward to Queensland in the near future. These trees will be inspected by the Departmental Officers, and samples of those which the Queensland Government will admit will be forwarded to the nurserymen in Victoria as a standard of acceptance.

“As the planting season will soon be drawing to a close, the nurserymen concerned should be advised of the conditions set forth by the Queensland Department of Agriculture.—Charles C. Brittlebank, Biologist.”

It may be recalled that early this year the Queensland Plant Pathologist (Mr. J. H. Simmonds, M.Sc.) paid a visit to Victoria, and accompanied by Mr. Brittlebank and the Superintendent of Horticulture (Mr. J. M. Ward), visited the leading fruit-tree nurseries, as well as a number of orchards. In each case the nurserymen concerned, gave Mr. Simmonds a free hand in regard to his inspection, and invited him to take away any tree or trees he liked for further investigation. No definite results of Mr. Simmonds' visit have been reported.

Much of the trouble in Queensland appears to arise from the fact that in many instances Apple trees have been planted in situations quite unsuitable for Apple culture. Some orchards have been planted on very poor soil, and no matter how good the original trees were, and what attention they receive, they could never make successful commercial orchards.



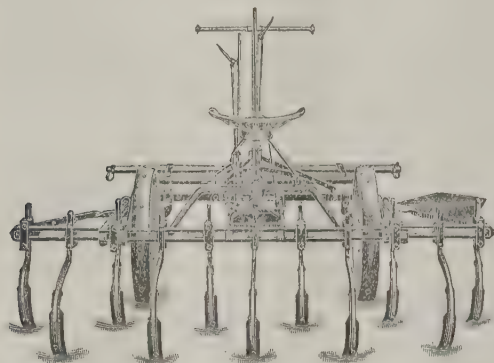
(GIBBS BRIGHT & CO.,—See Page vi).

Tools for the Orchard

T. Robinson & Co. Pty. Ltd.
Spotswood

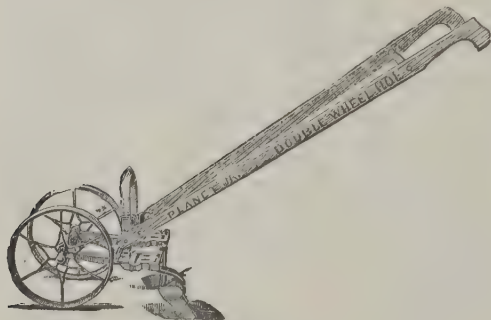
Make Interesting Display at Royal Show.

A great display of modern equipment is presented in the exhibit of the old firm of T. Robinson & Co. Pty. Ltd., Spotswood. Farm, Station, Dairying, Orchard and Garden Tools displayed by them on Stands No. 78 and 80a, Skene Street, provide interest, and offer proof that the installation of the modern equipment made by this firm will more than justify the outlay.



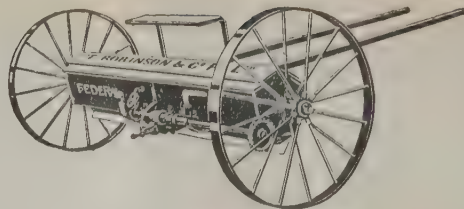
No. 41. Planet Junior Orchard and Universal Cultivator.

Strength is combined with lightness, adjustability, and efficiency to its fullest extent in this tool. The wheels are low, the tongue is of steel, and the frame is of high-carboned steel. Without extension it cuts 4 feet, but fitted with extensions can be brought up to 6 feet 6 inches. Standard tool is equipped with 2½ inch x 10 inch reversible steels, but sweeps, furrowers, and other equipment may be added. This tool can be arranged to work well up to the trees and under the branches.



No. 12. Double and Single Wheel Hoe.

The most popular and most useful Hoe made, and indispensable for the home or market garden. It straddles a row 20 inches high, and cultivates both sides at once. The equipment includes one pair 6-inch Hoes, 4 Steel Cultivator Teeth, 1 pair of Plows, and 2 Leaf Lifters. This garden tool pays for itself over and over in the savings it makes.

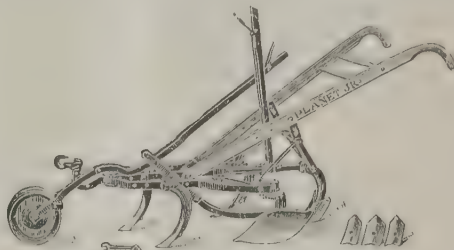


The Federal Spreader.

This Spreader is fitted with T. R. & Co.'s original, patented, positive force feed stars, and this system is the only method by which reasonably accurate quantities per acre can be sown. For top dressing of Orchards, the 6 foot machine can be fitted with a special low wheel, so that the dressings of fertilizer can be spread close up to the butts of the trees. There are also three standard high wheel machines in this line of tool, namely, 6 feet, 9 feet, and 12 feet. The two latter machines are fitted with T. R. & Co.'s famous Double Drive. The standard machines spread fertilizer, but is convertible to a Lime Spreader in a few moments by substituting suitable stars.

No. 25. Planet Junior H and D Seeder.

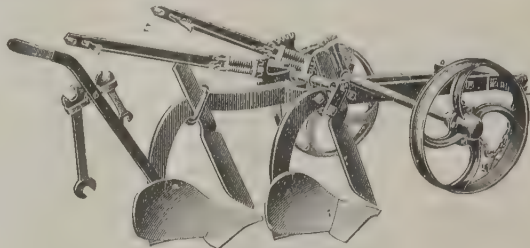
Known as the complete Gardener, the No. 25 Combined Hill and Double and Single Wheel Hoe, Cultivator and Plow. Equipment includes one pair 6-inch Hoes, 4 Cultivator Teeth, 1 pair of Plows, 2 Leaf Guards, and 1 Marker. The Onion Grower, Nurseryman, or Gardener finds this outfit particularly suited to his needs.



No. 8. Horse Hoe and Cultivator.

It is easy to handle, and the steadiest Horse Hoe you have ever put your hand to.

Equipment includes four 3 x 8 inch Cultivator Steels, one 4 x 8 inch Cultivator Steel, two 6 inch Hillers, one 7 inch Shovel, Lever Wheel, Lever Expander, and Depth Regulator. It gives years of service.



Orchard Double Furrow.

A useful Plow for light general purposes. Furrows and Land Wheels have broad rims, and have separate Depth Regulators. In use, the levers are well down out of the way of the branches, and work can be done close up to the trees. These Plows can be fitted with Circular or Knife Coulters, if desired. Suitable Single Furrow Plows for orchard work are also exhibited.

T. R. & Co. also maintain a special display at 536-538 Bourke Street, Melbourne, where information about their range of farm tools will be freely given to all enquirers.

The History and Development of Cool Storage of Fruit in Victoria

From an Engineer's Point of View

An Address Delivered at the Cool Stores Association Conference by Mr. R. Werner.

IHAVE BEEN REQUESTED to address the Conference on some aspect of Refrigeration as applied to Fruit Cool Stores. As I have been in touch with fruit storage in Victoria almost from its very beginning about twenty-five years ago, I thought it would be interesting to members to hear how the cool storage business developed.

In the first few years of this century there was some scattered information available about fruit preservation by means of refrigeration in print, and accessible to the grower if he knew where to look for it. Some information had also been gained through shipping fruit overseas, comparatively small consignments of apples, which were carried out fairly satisfactorily. Some other information was drawn from the experience of American growers and fruit merchants. Unfortunately the conclusions to be drawn from these different sources of information did not always agree with one another, and they were sometimes calculated to confuse rather than to instruct.

With the information available at that time in conjunction with Mr. Forster, the Manager of the Richmond Ice Works, we decided to put Cool Storage to a test, and procured about 200 cases of Jonathans to start with. To give the experiment every chance of success, we bought the apples from Mr. Hunter, of Tally Ho, who had some previous experience in selecting and packing apples for shipment. Although I was very sanguine about the result in consequence of reading up all the information I could lay my hands on regarding cool storage of fruit, Mr. Forster had his doubts about it, and started to sell the first apples about August, four months later, by showing the fruit to shopkeepers in Richmond and Swanston-street. The cost of the fruit was about 5/- per case, and the first lots were sold at 9/- a case, but as the demand for them increased the last of the cases were sold a few months later at 12/6 a case.

The following season some of the shopkeepers bought apples themselves, and placed them into storage at the ice works, at the rate of 1½d. per case per week. This suited both parties, as it brought in a revenue to the ice works in the winter.

The First Fruit Cool Store.

About 25 years ago Mr. Kitchen, of Toomuc Valley Orchard (Pakenham) decided to give cool storage a trial after inspecting the fruit stored at the Richmond ice works. He built a store in his orchard, and installed the first refrigerating plant for cool storage of fruit only.

Hearing of this venture, the growers of Doncaster considered the building of cool stores in their district. For information they were desirous of inspecting the Toomuc Valley Store, but their request for permission to do so was politely turned down. A meeting of the Doncaster growers was then arranged. Mr. Lawford, sen., invited me to attend this meeting, where it was decided to approach the Government for assistance to build a cool store at Doncaster. The Premier, Mr. Bent, was invited to pay a visit to the district, with the result that the first cool store at Doncaster was built, and in operation at the beginning of 1905.

Mr. E. Lawford, however, decided to build a store on his own of approximately 1,000 cases capacity.

We discussed the matter from all points of view, and Mr. Lawford's idea was to have three rooms, two storage rooms and one room for pre-cooling the fruit. The system of cooling was the air circulation with battery coils and fan overhead, but no brine tank. The air was circulated from the battery through the perforated floor, the perforation being obtained by spacing the floorboards of the second floor about ¾ in. apart. This second floor was resting on the insulated floor, was built in sections, and could be lifted for cleaning. A clearance space of 3 in. between the first and second floor formed the air duct for the floor. Mr. Lawford's small store was finished about the same time as the Government Cool Store at Doncaster, and ready in January, 1905. The result of his first year's experience he gave in a letter of June 4, 1906, in which he said:—

Mr. Lawford's Experience.

"For the information of anyone thinking of erecting a cool store in the orchard, I will give a short de-

scription of one erected by me in the beginning of 1905, also my experience of working same during the present year up to the end of May. The plans were drawn by R. Werner, Refrigerating Engineer, Burnley-street, Richmond, and the building erected under his supervision. It was planned to hold 1,000 cases, but an extra 100 or so can be stacked if necessary in the gangways. It is divided into three rooms, roughly speaking, to hold 200, 300, and 500 cases respectively. The first small room is for the purpose of receiving the fruit and cooling it before placing it in either of the other rooms. The cool air ducts are so arranged that the whole of the refrigeration may be concentrated at will on any one or two rooms, or it can be spread over the three rooms at the same time. This enables me to quickly cool down in the receiving-room the fruit as brought in from the orchard, and also when, as towards the end of the season, I have only sufficient fruit to fill one room, the other rooms remain unrefrigerated. This is a considerable item in economy. The refrigerating plant was supplied by R. Werner, and the motive power is a 5-horse Hornsby Ackroyd Oil Engine. The whole is so simple that, although having no previous knowledge of machinery whatever, I have run it so far without any serious hitch.

"During the present season 1,300 cases of fruit have been treated, of which 500 still remain in store. From March 10 to May 31, the machinery ran 318 hours, the average during March, when the most fruit was received into store, was 5½ hours per day, during April, 4 1-3 hours, and during May, when very little fresh fruit was put in, only 2 1-3 hours per day was sufficient to keep the temperature at from 32 to 36 deg. The actual expenditure in oil (kerosene and lubricating) during 1905, was rather over 6d. per hour, but through experience gained the cost has been reduced this season to 5½d. per hour, notwithstanding kerosene being dearer."

Frost Accumulation.

The system of cooling at the Government Store was practically the same as installed in Mr. Lawford's store—forced circulation of air by means of a fan and the air cooler battery overhead, but with the addition of brine circulation over the coils to prevent the accumulation of frost caused by the condensation of moisture freezing on to the coils.

In a comparatively small store this would not be a serious matter, but in a larger one where thousands of cases have to be dealt with, this accumula-

PATENTS
GEORGE A. U'REN
PATENT ATTORNEY

"HENRY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

tion of frost would seriously reduce the efficiency of the plant towards the end of the season.

Provision was made in Mr. Lawford's case for such accumulation by spacing the pipes in coils further apart not less than 4in. centres. Where brine is used to absorb the moisture given off by the fruit the pipes can be placed close together, and consequently greater amount of piping be placed in the space allowed for the battery.

With the brine battery system the constant absorption of moisture will dilute the brine to such an extent in the course of time that the low temperature to be maintained in the ammonia coils will cause the brine to freeze on to the coils in thick layers, almost in a solid mass, and consequently reduce the efficiency of the coils to a considerable degree. The way to strengthen or concentrate the brine is to either add more calcium or concentrate the brine by evaporation of the moisture absorbed. When calcium was at a price of about £4 per ton its addition in a store up to about 15,000 to 20,000 cases was not a serious item, but when the price rose up to £14 and £16, concentration of brine was resorted to; at present the price is between £9 and £10 per ton.

The System of Air Distribution. in the Government Store was different from Mr. Lawford's Store. The inlet and outlet ducts were placed in the ceiling at opposite ends of room. The drawback in this case was that the cold ingoing air at a temperature of some degrees below freezing point at times froze the top cases of fruit. Cases directly under the ducts had to be covered with bags to prevent the freezing of fruit. If the temperature of air entering the room was not sufficiently low, the outgoing air, after passing between and over the cases stacked in the room and absorbing the heat from the fruit was at times sufficiently high to cause ripening of some of the fruit at the outlet end.

The building of cool stores with overhead brine battery as well as inlet and outlet ducts at opposite ends on ceiling was favored by the Government architect, and similar stores were built at Ringwood, Diamond Creek, and Burwood East.

The First Co-operative Store.

After a few years' experience, Mr. Lawford considered more storage space, and formed with Mr. Tully and Mr. Petty as Directors, the first Co-operative Store Co., consisting of about 15 or 16 shareholders, who each contributed a fixed amount of capital at so much per share, each share re-

presenting a storage space of 500 cases.

As the majority of the shareholders had obtained fairly satisfactory results in the then Government store, three of the rooms had to be built with air inlets at opposite ends, and the fourth room (which was practically all taken up by Mr. Lawford) had the same air distribution as in his small store, floor inlet and ceiling outlet.

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,
11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,
9 & 10 Botoiph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

Although both systems worked fairly satisfactorily, there was room for improvement, which was actually carried out in the construction of the first building of the Orchardists' Cool Store in Doncaster. Provision was made at each end of the rooms to allow the cold air from the coils to blow directly down past the cases of fruit by leaving a 12in. space between the first row of cases and the end walls. In this way the cold air did no damage to the fruit by being directed alongside instead of on top of the cases. A further improvement was effected by splitting up the quantity of air delivered, letting in about half at the one end and the other half at the middle of the room, the air from both inlets being re-

turned by the one return duct at the far end of room to the battery. This improvement suggested itself on account of the long rooms, which in this case were 52ft. long.

The Next Improvement

in air distribution was carried out for the first time in the Box Hill Store, and subsequently in all stores built by the Public Works Department. This consisted of the original construction of air inlet and outlet ducts in ceiling at opposite ends of rooms, but instead of directing the air intake through a small number of large openings at one end of room, a perforated double ceiling was constructed, the perforation being obtained by spacing the boards of the false or second ceiling a fraction of an inch apart, and distributing the cold air as evenly as possible over the whole of the chamber. In this way no cold air blast could strike the fruit, but instead a gentle breeze was spread over the whole of the fruit. The cold air being heavier settled down evenly over the whole space, absorbing heat where it was given off by the fruit and returning back to the battery to be cooled again.

In every case of forced air circulation in a large room, the temperature difference between inlet and outlet may be anything from 2 to 3 deg. up to about 6 or 7 deg. according to the quantity and temperature of fruit placed in the store. The greater the number of cases and the higher the temperature of the fruit the greater will be the difference of air temperature between inlet and outlet, because the air passing on its way through the room from one end to the other absorbs the heat given off by the fruit. The air on its way over the coils in battery gives off this absorbed heat to the cooling coils, its temperature being lowered, and re-enters the room at this lower temperature to pick up heat again. It naturally follows that the more surface you expose to the air the more heat can be taken up, although no more than is given off by these surfaces. This means that once the fruit is cooled down all the air has to do is to absorb the heat entering the rooms by radiation through the insulated walls, floors and ceilings, through the opening of doors, and the small amount of heat generated by the ripening of the fruit. The lower the temperature of the rooms naturally the less is due to this cause.

Provide Air Access to All Surfaces.

Following the air on its course through the rooms we should give it as much access as possible to all the surfaces we want to be cooled, which means that we should not stack our cases too closely if we want to cool

our fruit effectually. We need not sacrifice too much space for this purpose; anything from half an inch upwards will do. If a stack of, say, 500 cases is closely packed with fruit at a temperature of, say, 60 or 70 deg., the heat from the fruit in the centre of that stack has a poor chance of being absorbed by the air passing through the chamber; it can leave the fruit only very slowly—too slowly, probably, to prevent the ripening of some, and consequently that fruit will not keep. With some fruit, say a well-keeping variety of apples, the matter of circulation may not be so important as with early variety pears, but it is one of the precautions which should not be neglected with any fruit.

If you realise that it takes about three days in an ordinary kerosene case to cool fruit from about 70 deg. to about 32deg., placed on the floor of a cool room, all sides practically exposed to the room temperature, how long would it take to cool a stack of a few hundred cases where the air cannot get at the fruit to remove the heat effectually, at all events not until a certain amount of damage is done?

The development of cool storage of fruit was principally for the requirements of large stores for whole districts, because the refrigerating plant required the attention of a competent engineer, and the average grower could not be bothered with the running of a plant. Although there is no particular art and science required to run a refrigerating plant or an oil engine of a comparatively small size, yet when it came to a larger plant for a larger store, the services of a competent man could not be done without.

The System of Cooling

adopted for large stores was the battery system with brine circulation over coils, because the work of the whole of the refrigeration available could be directed either to any single room or on all the rooms together if required, and the supply of cold air regulated according to the requirements of each room. The extra work involved in looking after the proper density of the brine and keeping the coil surfaces free of frost accumulation could easily be attended to by the engineer in charge of store, in addition to his other duties of keeping all the machinery in good working order.

After the success obtained in the Co-operative Stores, some growers living some distance from these looked for more convenience in the handling of their fruit, and had the idea of building a store to suit their own requirements in their orchards after the manner of Mr. Lawford.

The time and attention to be given to the machinery could easily be

spared, and the actual cost of running was reduced by the saving of wages in doing away with a special attendant.

To minimise the work connected with the running of the refrigerating plant, the battery system with fan and brine was departed from, and the direct expansion system substituted.

In the Direct Expansion System

the cooling coils are placed direct into the rooms to be cooled, for preference on the walls, as the placing of coils on ceiling will cause moisture to drop on to the fruit, and in any other position they would interfere with the stacking of the fruit. By placing the coils on the walls with gutters underneath to catch the drips a natural circulation of air is created. The air nearest to the coils is naturally the coolest in the room, and by being cooled is increased in density, and heavier than the air in other parts. On this account it naturally drops, is replaced by warmer air from above. This circulation goes on continuously as long as there is difference between the temperature of the coils and the air in the room. The greater the difference of temperature the greater the circulation.

This circulation created by the temperature difference will cause a steady flow of air in the room; the cooler air coming into contact with the comparatively warm surfaces of the cases and the fruit, absorbs a certain amount of heat, and in turn rises again, forming a regular circuit. This circulation may be imperceptible to the casual observer, but it is there all the same, providing always the cases are not stacked too closely together so that the cooled air from the coils can find its way between them to pick up and absorb the heat from the cases to be cooled.

The cases should be stacked about 9 to 12 in. from the walls well clear of the coils, and if there is a slight space of only about $\frac{1}{2}$ in. between each case, sufficient circulation can be obtained to cool the fruit without freezing.

If, however, the cases are stacked as close as possible, the cold air from the coils cannot get away readily, and through the stagnation caused, fruit may be damaged by freezing. Some apples and pears may be subjected to fairly low temperatures without doing any damage, and I have seen the Yates variety in temporary temperatures of 25 and 26 without being harmed. When I say "temporary" I mean for a number of hours, say 4, 5 or 6 hours. I have no doubt that if exposed to that low temperature continuously serious damage might be done.

The Running of the Refrigerating Plant

in a cool store is usually done intermittently, except at the beginning of the season, when the filling of the stores may be done so quickly that it requires the continuous running of the plant for days at a time. When this is necessary there is rarely any fear of the temperatures getting too low. The attention of the man in charge will prevent this. The intermittent working will take place when all the fruit is practically cooled down, and no fresh fruit is being put in. As all the heat required to be taken out of the fruit has been disposed of, it is only necessary to remove the small amount of heat which enters as previously explained. A few hours' daily running will be sufficient to keep a fairly even temperature until all the fruit is disposed of.

Some of you will have noticed that it is fairly easy to keep an even temperature when the rooms are stacked full of fruit, and that the temperature fluctuates more when there is not much left in the store. The reason for this is that the heat entering through the walls, floor, and ceiling, as well as the opening of doors, raises the temperature of the air in the chamber comparatively quickly after stopping the machine, as the specific heat of air is very much less than the specific heat of fruit and cases. This means that a certain number of heat units entering the room is sufficient to show a higher number of degrees on the thermometer than it would show on the fruit in cases, although if this is not left for more than a day it would not make any appreciable difference on the temperature on the fruit in the cases.

For the same reason the temperature in a store filled with fruit will not show the fluctuation, as the heat entering through walls, etc., is easily absorbed by the fruit, and would not affect the temperature of air to the same extent, consequently the heat leakage taking place is not so noticeably recorded on the thermometer.

The Two Systems Compared.

Another matter to which I might refer is the relative efficiency of dry air circulation and direct expansion. Some of those growers who have stored fruit under the two systems have formed definite opinions in favor of the one or the other.

From my point of view fruit can be stored successfully by either system, and with proper care and attention there is no reason whatever why this should not be done. All the experience of cool storage of fruit up to the present has proved it, and although the direct expansion system has been introduced principally for small stores for the convenience of running in the

absence of the brine tanks, pump and fan, at the same time it must not be overlooked that a certain amount of space has to be sacrificed in the chamber for the coils, and also that a certain amount of moisture is unavoidable. This, of course, may be an advantage regarding the fruit stored, as it may prevent a certain amount of wilt, which is sometimes noticed on fruit stored on the dry air circulation system, and growers who have stores of their own cooled by direct expansion seem to think so.

One advantage of the rooms cooled by direct expansion is that the air in each room is not intermingled with the air of any other room. In a number of rooms cooled by the battery system, the air of all rooms in the building cooled by this system is practically mixed right through the building, and the odors of different fruits are intermingled to such an extent at times that some of the pears have a pronounced apple flavor; all the flavor of the apples is not taken up by the brine, although it will do so to a certain extent.

Any highly flavored fruit, such as Oranges, Lemons, Peaches, and Apricots should not be stored in the same building with Apples and Pears where the battery system is installed. These should be stored in separate rooms, and separate rooms are better cooled by the direct expansion system.

The successful development of the cool storage of fruit has proved a great boon to the fruit-grower. The mere fact of the existence of the Cool Stores Association demonstrates the importance to which it has grown up to the present, and there is no knowing yet to what it may extend to in the future. I wish you every success.

BREEDING OF TREE FRUITS.

Experiments in British Columbia.

All but a very few of the varieties of tree fruits grown commercially are the result of chance seedlings. During the past few years, however, great progress has been made in the development of scientific methods of plant breeding. The application of breeding principles to the improvement of fruits is already bringing results, and it is certain that plant breeding will have a very marked influence on the future trend of fruit growing. Our present commercial varieties have been selected as the best of countless chance seedlings, but not one of them is perfect—all are susceptible to improvement. Eventually they will be replaced by other varieties possessing characters which will make them more profitable to grow. These replacements will

necessarily be brought about slowly with tree fruits which are relatively long lived, but the process can be hastened by carrying on breeding operations. The expense, length of time, and area of land involved, make it very difficult for the grower to do breeding work with tree fruits. It is for this reason that the following projects are being carried on at the Experimental Station, Summerland, British Columbia, says the "Canadian Horticulturist."

Controlled crosses are being made, using such varieties as McIntosh, Delicious, Newtown and Winesap as parents, the object being to produce a high-quality, attractive, long-keeping winter Apple adapted to British Columbia dry-belt conditions. Several hundred seedlings have been secured from the crosses made in 1924 and a considerable quantity of seed from the 1925 crosses has been planted. It is proposed to continue making crosses each year and to grow the resulting trees to fruiting age, when the most promising seedlings can be selected for more extensive propagation and trial before being introduced to commerce.

The Pear would undoubtedly be grown to a much larger extent in the same district were it not for the fact that the bacterial disease, fire blight, has, at times, caused very serious losses. Authorities agree that these losses will eventually be prevented by the development of commercial Pears which are immune or highly resistant to the attacks of the bacteria which cause the injury. Certain Chinese varieties of Pears have been found to be immune to fire blight, but they are inferior in size and quality to the European sorts, the best of which are all extremely susceptible to blight. It is hoped that by crossing these Chinese Pears with the best commercial sorts, new varieties may be developed which will prove to be immune to blight and at the same time possess the necessary size and quality to make them of commercial value. With this object in mind, propagating material of a number of immune and highly resistant varieties was secured in 1924 from Dr. F. C. Reimer, of the Southern Oregon Experiment Station. It is proposed to propagate trees of these Chinese varieties and when they reach blooming age cross them with high-quality commercial varieties such as the Bosc, Bartlett and Anjou.

A junk shop near a railroad crossing in New Jersey bears this admonition to motorists:

"Go ahead, take a chance; we'll buy your car."

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1855

★
Special
Catalogues
showing
prices
issued
after
each sale



Tel. Addr.:
"Timmkorn
Hamburg"

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired

BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Western Australia

Successful Orange Export. . . District Notes.
Seasonable Orchard Work.

EXPORT OF ORANGES.

W.A. Firm's Success in London and New Zealand.

Various growers at Lower Chittering are sending Navels home to the London market. One firm which ships under the "G.B.L." brand has sent a quantity of trays as deck cargo, and expects soon to have a cabled report of the condition in which they arrive.

The same firm has sent a quantity of Navels and Lemons to New Zealand, and has received a very good report from the N.Z. agents, the Co-operative Fruit Growers' of Otago Ltd., Dunedin, who wrote on July 13:—

"Your valued consignment of 50 cases Oranges and 5 cases Lemons arrived on July 4, and we are pleased to be able to inform you that the whole consignment of Lemons and Oranges opened in excellent condition. As a matter of fact, in our opinion it is one of the best consignments that has arrived on this market for a long time. We and our clients like the appearance of the fruit, and we have no hesitation in saying that if you decide to send regular consignments to this market they will always find a ready sale.

"This is the first time that we have handled Westralian citrus fruits, and as a matter of fact we think it is the first time that any have been sold on this market. There are large quantities of South Australian fruit coming to this market every year, and we do not see why you should not do good business here also as your fruit compares very favorably with any that comes from South Australia. In our opinion your pack was right, and the grade was right, and if you intend shipping further lots we would like to impress upon you the necessity of keeping your grade and pack right, as buyers are very keen about choosing the best grades and pack, and if your brand can be depended upon you will certainly do well on this market."

The firm of "G.B.L." has sent Navels to London every year since the export of oranges was commenced after the war. The wisdom of having the brand before the London buyers every year was proved last week, when the London brokers cabled for an f.o.b. price for the "G.B.L." brand of Navels and Valencia's. The

firm concerned was very pleased with the result of its London shipments, and, needless to say, is not anxious to join any co-operative packing-shed movement when such results can be obtained by individual effort.

Mr. T. Paterson, Federal Minister for Markets and Migration, visited the G.B.L. grove when in the West, and was agreeably surprised to find such up-to-date methods employed in the packing shed and grove, and was much interested in the lemon-curing cellar. This grove, the property of Messrs. Garnsworthy, Bird and Leonard, is devoted solely to the export of oranges and lemons, and for

Brand Your Fruit Cases and Bags

with

CALDWELL'S STENCILLING INKS

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

the last six years the whole crop has been sent out of the State, with the exception of second-grade stuff or culls. Orders have been so heavy at times that other growers have to be called upon to help supply the demand. The last week in June of this year 1,000 cases were asked for, 700 of which G.B.L. supplied, the balance being delivered by other groves.—

NOTES FROM DISTRICTS.

Toodyay, W.A.—The Toodyay Valley District is especially suited to the fruitgrowing industry. The soil is a rich chocolate loam, and exceptionally well watered. The vines grown in this district live to a great age, and bear the finest flavored grapes in the world, and being free from all diseases, do not require spraying. The Sultana does exceptionally well, and produces more dried fruit in proportion to fresh fruit than anywhere else in the State. Citrus Fruit does

well; there is a deal of this grown in this district, and it is a very profitable business.

The market facilities are good. Land can at present be had at considerably less than land of the same qualities in other States, and the district will be one of the chief fruitgrowing districts in the State. The following are among its advantages:—Rainfall, 23in.; distance from Perth, 65 miles; transport facilities, daily trains to Perth; land, chocolate loam on sloping land; water, numerous fresh-water springs; school, vans run to Toodyay school from all parts of the district. The whole district is very picturesque.—J. T. Read, Toodyay.

Lower Chittering, W.A.—This district is devoted solely to Citrus Fruits, there being about 300 acres planted in varying stages of profit. Navels are a heavy crop this season, but fruit is on the small side. Late Valencia's are a medium crop, the fruit being of an average size.

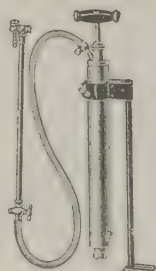
The winter is being kind to the growers compared to last season, when floods and windfalls were the main topics to discuss. Frosts are prevalent with fine warm days, making ideal conditions for picking and shipping. A fair quantity of fruit from this district is exported to Java and Singapore, one shed devoting the whole of its No. 1 fruit for export purposes. Small lots also go to London.

Red Scale and Aphis are the most serious pests, and some growers have been fumigating for some years to combat the former, finding the method the only way to ensure clean fruit.

Irrigation is not a great feature in this locality, our average rainfall being 33in. One or two growers have pumping plants on the Chittering Brook. As the groves get older the need for a summer watering is becoming more apparent in order that the fruit can be kept growing, as summer rains are usually conspicuous by their absence.

SPRING SPRAYING.

Our spring spraying programme is confined to spraying for orange aphis. This pest has been very bad for some seasons past, and would have completely destroyed the new crop if not tackled. The usual remedy used is Black Leaf 40, and continual application is needed during the warm, humid weather before the rains cease. Tobacco waste is also used with success both as a liquid spray and by placing under the trees.



For

Spraying - Limewashing and Disinfecting

THE VERMOREL BUCKET PUMP

For Applying:

DISINFECTANTS
LIMEWASH
WHITEWASH
WATER PAINTS

CEBOSOTE, Etc.
And for
WASHING CARS
WINDOWS, Etc.

Large compression cylinder.
Powerful and continuous spray.
No working parts of rubber.
Ideal for spraying Paraffin Oil, etc., emulsions.

PRICE 22/- COMPLETE

With 3ft. of India Rubber Tubing, 22in. lance, self-clearing swivel spray nozzle and nozzle to throw a straight jet of water.

ALL TYPES OF SPRAYERS MADE, 1½ PINTS TO 88 GALLONS.
PRICES FROM 3/- to £77/10/-.

Full Particulars and Catalogues from:—

COOPER, PEGLER, & CO. LTD., 24d CHRISTOPHER STREET, LONDON E.C.2.

Methods of manuring are varied in so far as artificial fertilisers are concerned, but all growers adopt the practice of green manuring. One bushel of peas and 1 to 3cwt. of super per acre are drilled in early in the autumn just after the first rains, and ploughed in with the spring ploughing. Then super., bone dust, potash, and ammonia are applied to the trees just before the ground is forked in the spring, some growers allowing 1lb. of the above mixture to each year of the tree's age.

The principal fruits grown here are of the Citrus family. Varieties are Washington Navel, Navelencia, Thompson's Imp. Navel and Late Valencia Oranges, Lisbon, Eureka, and variegated Lemon, and Grape Fruit.

Lower Chittering is purely a Citrus district, and no other fruits are grown for commercial purposes, the Citrus fruits being the principal industry.

General cultural work during August and September is the forking of trees and ploughing, the latter being governed by the amount of rain and the condition of the soil. Should the season be late, ploughing is delayed until the ground is fit to work. One grove uses a Fordson tractor for all cultural labor, and also on the irrigation pumps.

Last season (1926) crops were fairly heavy, both Navels and Valencias. The heavy rains and floods during midwinter caused the Navels to drop very heavily. However, after the usual mid-season glut prices firmed in the markets, and growers cleaned up the season very

well satisfied with the year's returns.

Two or three growers have installed the "Lightning" Graders, but apart from that there is nothing much fresh in equipment.—"Surtic," Lower Chittering, W.A.

Balbarrup, via Bridgetown (W.A.).—The general topic of discussion here at present is centred, as far as fruit-growers are concerned, around the "Overseas Fruit Marketing Bill," and its possible effect on export fruit sales. It has created a feeling of uneasiness, and I should venture to predict that it will find very poor support in W.A.—Joseph Johnson, Balbarrup.

WESTERN AUSTRALIA.

September Work in the Orchard.

The first ploughing should be finished early this month, and the cultivators brought into use. No grower can afford to risk putting off cultivation in the expectation of good rains falling in the late spring. Dry winters are practically unknown in the fruit-growing areas of Western Australia, and provided the land is kept in a thoroughly tilled condition during spring and summer, sufficient moisture can be conserved in the soil to enable the fruit to attain good size and quality, but where cultivation is neglected, the fruit is undersized, lacking in juice and poor in appearance.

Spray during pinking stage to control Pear Scab (*Venturia pirina*).

Continue spraying, where necessary, for Orange Aphs.

Continue trapping for fruit flies

and commence baiting as soon as the various fruits become sufficiently ripe to serve as a depository for the eggs of the pest.

Planting of Citrus trees should be completed this month.

Graft over old obsolete varieties of Pear and Apple trees to varieties which will pay for their upkeep in the orchard, but only do this if the stocks are sound and healthy; an unthrifty stock will never result in a good tree, no matter how well the grafting is done. Use the strap graft, and if not familiar with it, ask the Orchard Inspector in your district for a demonstration.—G. W. Wickens, Supt. of Horticulture, in the "Journal of Agriculture."

WESTERN AUSTRALIAN TRADE.

Export Records Broken.

Western Australia has broken easily all previous records this season in its export of fresh fruit. About 564,000 cases have been exported, as compared with the next best of 403,000 cases in 1925.

The fruit has been landed overseas in excellent condition, and prices have been uniformly good, bringing a higher price when competing with fruit from eastern States. Hamburg took 141,000 cases, Bremen 5,420, Stockholm 30,000, Copenhagen 3,000, and Gothenburg 3,000. The Eastern States took 53,560 cases. The 564,000 cases exported included 49,401 cases of Apples, 3,800 of Grapes, 26,000 of Pears, and 4,000 of Oranges.

A Popular Sprayer.

And the Reasons for its Popularity.

By "Nomad."

IN TRAVELLING through various fruitgrowing districts one cannot fail to be impressed by the large number of Cooper Orchard Sprayers that he observes in use, a great many of them being the improved model which was made available by the manufacturers some months ago.

It is interesting to trace the reasons for the preference shown this modern sprayer, for it is safe to say that in no case does the purchase of machinery for orchard use call for such care and scrutiny as does the selecting of a plant for spraying. The severity of the conditions under which a spraying outfit has to work renders it most important that the design be suitable and the construction thorough in every detail.

The wheels of the Cooper Plant have 6 inch. tyres, and are 3½ feet in diameter. This ensures easy draught and is a safeguard against bogging in wet or cultivated ground.

The mixture vat on the Cooper Sprayer holds approximately 100 gallons, and is so placed that it can be filled quickly.

Amongst the orchardists themselves, the Cooper engine and the pump are both subjects of great praise. The former is of two b.h.p., and in many cases is adapted to the driving of other machinery such as grader, firewood sawbench, feed cutter, pump, etc. This particular engine has a wonderful reputation for economy in fuel consumption.



A Cooper "Perfect Balance" Sprayer at work on a well-known N.S.W. Nursery.

When one reflects upon the many qualities that have to be embodied in the building of an efficient sprayer, one discovers an explanation of the fact that so many orchardists have had disappointing experiences with sprayers of unsuitable design.

In the model of Cooper Sprayer that is now being supplied, the designers have solved many problems that proved stumbling blocks to manufacturers in the past. They have reconciled the steadiness of the 4-wheel type with the compactness and flexibility of the 2-wheeler, yet, at the same time, they have succeeded in maintaining perfect evenness of balance, no matter how much or how little mixture the vat holds, and no matter if the plant be working on flat or hill. This result has been obtained by making the vat semi-circular in shape, and having the axle (solid steel) run right through it so that the weight is swung evenly at all angles.

The pump is of the Duplex pattern and operated by the Cooper Engine gives a pressure up to 300 lbs., or more if desired.

Another feature that is helping to popularise the Cooper Sprayer is the patented pressure release. This device is operated by a simple movement of a lever. It can be adjusted to any pressure, and may be released instantly when spraying is not in progress, thus removing the load from the engine and saving fuel.

It is interesting to note that the Commonwealth Bureau of Science and Industry, which called for quotations for the supply of orchard spraying plants some few months ago, decided upon the Cooper after exhaustive investigations into the various plants on the market. The Cooper Sprayer was the only one that reasonably complied with the rigid specifications which the Bureau laid down.*

ANSWERS TO CORRESPONDENTS.

Pig Manure for Citrus Trees.

"Pigs," Shepparton, writes:—Re manuring Citrus trees, I am spreading about ten tons of fresh pig manure between the rows of eight-year-old Citrus trees. What artificial manure should I require to add to make a complete fertiliser?

Answer (by S. A. Cock, Vic. Govt. Citriculturist).—Pig manure contains .6 nitrogen, .4 phosphoric acid, and .3 potash. It is really not much more valuable than good stable manure.

A complete fertiliser to use with pig manure would be No. 2 complete manure. The pig manure would be all the better for composting before using in the grove.

Eucalyptus Scale.

"Subscriber," Mt. Gambier, forwarded specimens of Eucalypt leaves, asking the best remedy for the pest thereon, which is destroying his Yates Gums.

Answer (by C. French, Govt. Entomologist).—The specimens are affected by the common Eucalyptus Scale (*Eriococcus coriaceus*). It is advisable to cut out badly affected branches, and spray with Nicotine sulphate.

BRITISH FOOD RESEARCH.

At the luncheon of the Victorian Cool Stores Conference recently, Dr. F. Kidd spoke of the organisation in England for research into problems of storage and transport of fruit. There were two bodies concerned—first the Department of Scientific and Industrial Research, a Department on a national basis, under which was the Food Investigation Board; as one of its activities this Board had a research station at Cambridge, in contact with the University, which sought the solution of both immediate problems, and their more remote causes. Then there was a new body which had sprung from the Imperial Economic Committee—the Empire Marketing Board, appointed to expend funds for the advancement of inter-Empire trade. One of the activities of this body had been to appoint a Research Committee, and in conjunction with the Low Temperature Station at Cambridge, they were paying particular attention to the condition of overseas fruit shipments on arrival in Great Britain. This was quite a recent development, and Dr. Kidd expressed the belief that when they had more definite information in regard to fruit cargoes, and when and how damage occurred, they would be able to suggest methods of avoiding such damage in future.

The Fruit Trade

Market Reports and News Items

**REPRESENTATIVE FIRMS, FRUIT
MERCHANTS, AGENTS, EXPORTERS,**
Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.
Thomas St., Haymarket.

VICTORIA.

Melbourne.

Producers' Dist. Society, Western Market.
Cave, F., & Co., Melbourne.
Davis, J., Western Market.
Lister, G., Western Market.
Mills, A. & Sons, Western Markets.
Mills, J. E., & Co. Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L. Little Bourke Street.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.
J. Younger, Melbourne

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Comino Bros. Ltd., Fruit Exchange.
Cooksey & Co., Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H. Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters, and at London.

Launceston.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.

GREAT BRITAIN.

London.

M. Isaacs & Sons Ltd.
Margetson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Ridley, Houlding & Co., Covent Garden.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Exchange.

Mill.

White & Son Ltd.

Coventry.

Boswell Bros. & Davis.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Asthelmer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hamburg.
Stuer, Aug. Fruchthof, Reys, J. B. Mills & Co., Bank House, Melbourne.
Timm & Gerstenkorn.

AUSTRALASIAN MARKETS.

Victoria.

Melbourne (23/8/27).

The following were the ruling wholesale quotations at the Western Market:—Apples, good to choice eating, 12/- to 17/-; good to choice cooking, 11/- to 14/-; Tas., 11/- to 14/-; Bananas, Queensland, special, 28/- to 32/-; choice, 24/- to 28/-; standard, 18/- to 20/-; Lemons, Vic., 7/- to 9/-; Mandarins, N.S.W., 9/- to 14/-; small, 4/- to 6/-; Oranges, Vic., 10/- to 13/-; N.S.W., 8/- to 9/-; Navels, Murray districts, Vic., 12/- to 17/-; Murray districts, S.A., 12/- to 18/-; Goulburn Valley, 10/- to 12/-; Passion Fruit, Vic., 13/- to 20/-; Pineapples, Queens, 10/- to 13/-; Roughs, 10/-.

New South Wales.

Sydney (16/8/27).

Mr. F. Chilton, City Fruit Markets, reports:—

Queensland Fruits.—Bananas, 21/- to 34/- per case; Pines, smoothleaf, 10/- to 13/-; Ripley, 8/- to 10/-; Tomatoes (North Queensland), 3/- to 12/- per half case.

N.S.W. Fruits.—Bananas, 20/- to 34/- per case; Lemons, 5/- to 9/- per bushel case; Oranges, 6/- to 12/-; Navels, 9/- to 15/-; Mandarins, 3/- to 17/-; Apples, G.S., 14/- to 24/-; Passions, 6/- to 16/- per half case; Seville, 5/- to 10/- per bushel case.

Tasmanian Fruits.—Apples, Jon., 12/- to 18/- per bushel case; F.C., 12/- to 17/-; S.P.M., 9/- to 18/-; S.T.P., 9/- to 14/-; Dem., 16/- to 20/-; Pears, W.N., 4/- to 10/- per half case; W.C., 5/- to 10/-.

Victorian Fruits.—Pears, P.T., 14/- to 20/- per bushel case.

Owing to the scarcity of choice lines of Apples, prices for this fruit have been steadily rising. Pears are almost finished for the season. Choice Mandarins and Navels are in good demand, and the market for Pines is improving.

Tasmania.

Hobart (13/8/27).

Apples, N.Y.P., choice, 13/6 to 14/-; good, 11/- to 12/-; fair, 10/6; spotty lots, 6/6 to 8/6; S.P.M., No. 1 good, 12/-; fair, 10/- to 11/-; No.

2, small, good color, 7/6 to 8/6 medium; small and spotty, 4/- to 7/6; S.T.P., good, 11/- to 12/-; fair, 10/4 to 10/7; medium and spotty lots, 4/6 to 9/8 according to quality; Democrats, medium, 11/3; spotty lots, 5/- to 9/6; F.C., fair, 11/-; medium, 9/- to 9/6; spotty, 5/6 to 7/-; M.F., fair, 7/9 to 8/6; small, 6/3; other inferior grades of Apples, 3/6 to 5/- per case.

Queensland.

Brisbane (13/8/27).

Local Fruit.—Lemons, prime, 4/- to 5/-; others, 3/- to 4/-; Limes, 4/- to 5/-; Pineapples, smoothleaf, 5/6 to 8/6 a case; 2/6 to 6/6 doz.; rough, 1/- to 5/- doz.; 4/6 to 8/6 a case; Passion Fruit, 7/- to 11/-; Papaws, 4/- to 8/-; Mandarines, 7/- to 20/- a case; Custard Apples, 3/- to 6/-; Oranges, 6/- to 10/-; Navels, 9/- to 17/-; Strawberries, 12/- to 16/- a doz. boxes.

Western Australia.

Perth (11/8/27).

Apples, Rckewoods, prime dumps, 9/- to 12/- (special to 14/6); flats, 6/- to 8/6; Granny Smiths, prime dumps, 14/- to 16/- (special, 19/9); flat, 9/- to 11/6; Cleos., prime dumps, 9/- to 11/- (special to 15/-), others from 8/-; flats, 6/6 to 8/6, Dunns, prime dumps, 9/6 to 12/- (special to 16/-); flats, 6/6 to 8/- (special to 10/3); Yates, prime dumps, 12/- to 15/- (special to 17/9); others from 6/-; flats, 8/6 to 10/6; Oranges, Navels, dumps, 7/9 to 12/- (special to 15/-; others from 6/-); flats, 4/- to 7/- (special to 9/6; some from 5/-); Common, flats, 2/- to 5/-; Lemons, flats, 3/- to 5/-; special to 8/6; Mandarins, prime flats, 7/- to 12/- (special to 14/-); others from 3/-; Cape Gooseberries, 6d. to 8½d. per lb.

South Australia.

Adelaide (13/8/27).

Apples (eating), 18/- to 20/- per case; cooking, 16/-; Bananas, 34/- to 36/-; Lemons, 9/-; Oranges (Common), 9/-; blood, 10/-; Mandarin, 16/- to 18/-; Navel, 12/- to 13/-; Poorman, 12/-; Passion Fruit, 34/-; Pineapples, 16/- to 18/-.

New Zealand.

Dunedin (12/8/27).

Reilly's Report.—A good demand for fruit of all descriptions. Our "Berri" shipments reached us in perfect condition, and realised from 21/- to 24/- per case for choice Navels; N.S.W. Mandarins realised from 17/6 to 22/-; Passion Fruit, 21/- to 22/6; Pines, 23/- to 27/-; Seville, 19/-;

N.S.W. Lemons, 27/6; Mildura Lemons, 28/-; Adelaide Mandarins, 25/-; American Valencia Oranges, 42/-; Mission Brand Lemons, 60/- and Grapefruit, 39/-. The Apple market:—Choice Sturmers are realising to 10/-; Delicious, to 13/-; Green Washingtons, to 9/-, and Granny Smith's to 11/- for choice fruit.

V.C.C.A. Market Report.

The Victorian Central Citrus Association supplies the following report of the Melbourne Market for the week ending August 19. Although the demand for highest quality Citrus fruits is still keen, medium quality fruit is hard to dispose of. A greater disparity between the prices for first quality and medium fruit has never been known. The firm tone of the New South Wales situation for all varieties is keeping supplies off our market.

Prices.—Navels, A district, special, 12/- to 17/-; B district, special, 11/- to 16/-; C district, special, 7/- to 12/-; standard, 1/- lower; Common Oranges, N.S.W., 7/- to 11/-; Vic., 9/- to 13/-; Mandarins, best large, 13/- to 15/-; small to medium, 6/- to 11/-; Lemons, best counts, 9/- to 11/-; small, to 7/-.

SUCCESSFUL STORAGE OF NEW ZEALAND APPLES.

London (25/7/27).

As an experiment, 5,000 cases of New Zealand Apples landed from the steamer "Tainui" were placed in cold storage at Southampton on June 10. The shipment is now being marketed in London in excellent condition. Sturmers are realising 17/- to 21/- a case, and Statesman, 20/- to 23/- a case.

N.Z. APPLES IN LONDON.

Good Prices Realised.

Capt. A. W. Pearse, Australian and N.Z. representative of the Port of London Authority, advises that he received a cable from London on August 22, saying that New Zealand Apples were fetching from 20/- to 25/- per case. No consignments had arrived at Hull for three weeks, and their last price known was 16/- to 20/- per case.

Liverpool (13/7/27).

Messrs. J. C. Houghton report:—Tasmanian Apples, ex s.s. "Cornwall" and "Ulysses," for which there is better enquiry. Sturmers again predominate, and are promptly disposed of at somewhat increased rates.

The people were glad to see Western Australians, the Rokewood variety of which attracted much attention. Tas., S.T.P., 14/6, 18/3; F.C., 15/-, 18/-; S.P.M., 15/-, 17/-; W.A., Rokewood, 18/6, 21/6.

American Apples were still on the market in both barrels and boxes, the latter realising:—Winesap, 13/- to 18/9; Albemarle, 18/6 to 20/-.

South African Oranges realised up to 22/6.

The following are the total arrivals of American, Canadian and Australasian Apples and Pears to July 13, as compared with last season:—

Arrivals for week ending July 13:—American and Canadian Apples, 1,714 barrels, 4,964 boxes; Australian, Tasmanian and New Zealand Apples, 34,063 cases; pears, 52 pkgs.

Total arrivals from commencement of season to July 13:—American and Canadian Apples, 1,633,665 barrels, 1,189,477 boxes; Australasian Apples, 264,500 cases; Pears, 27,610 pkgs.

Total arrivals to same date last year:—American and Canadian Apples, 1,151,785 barrels, 977,371 boxes; Australasian Apples, 715,436 cases; Pears, 17,036 pkgs.

GERMAN MARKETS.

Hamburg (17/6/27).

Messrs. J. H. Lutten & Sohn report the sale of 18,400 cases Tasmanian Apples, ex s.s. "Port Hobart." The Apples were of good average quality and showed a little better color. The demand was rather strong, as this was the last direct shipment.

Prices ruled as follows (sizes, 2½ to 3 inches):—Jonathans, 12/- to 23/- according to condition, mostly 17/- to 20/-; Sturmer Pippins, 13/6 to 21/3, mostly 16/6 to 19/-; Scarlet Pearmaines, 15/- to 22/-, mostly 16/- to 19/-; Cleos., 14/- to 23/6; Rome Beauties, 17/9 to 22/-; Ben Davis, 17/6 to 17/9; Five Crowns, 15/- to 18/-; Dunns, 19/6 to 20/6.

SALE OF AUSTRALIAN AND TASMANIAN APPLES IN BRITISH MARKETS.

Average Prices Realised at Hull, Liverpool, London, and Manchester Between April 22 and June 24, 1927.

(Particulars extracted from the "Agricultural Market Reports," issued weekly by the British Ministry of Agriculture and Fisheries, and supplied by W. J. Wade, Aust. and N.Z. representative of the Port of Manchester.)

	Hull.		Manchester.	
	1st.	2nd.	1st	2nd.
Cleopatra (10 weeks) . . .	19/4 1-5	16/11 1-3	19/10 1-5	17/6
Dunn's Seedling (8 weeks)	17/7 1-2	16/3 3-4	18/9 3-4	17/3 3-4
Jonathan (9 weeks)	16/7 1-3	15/1 1-3	17/10 2-3	15/10 2-3
	Liverpool.		Manchester.	
	1st.	2nd.	1st	2nd.
Cleopatra (6 weeks) . . .	18/2	15/4	19/9	17/9
Jonathan (6 weeks) . . .	16/-	14/2	17/10	16/4
	London.		Manchester.	
	1st.	2nd.	1st	2nd.
Cleopatra (8 weeks) . . .	18/3	15/9	19/8 1-4	17/5 1-4
Dunn's Seedling (8 weeks)	16/8 1-4	14/10 1-2	18/9 3-4	17/3 3-4
Jonathan (8 weeks)	16/6	13/7 1-2	17/10 1-2	16/-

PREVENTS :-

CURL-LEAF

BLACK-SPOT

SHOT-HOLE

MILDEW



Don't Bother
mixing
Bluestone & Lime
when this is
JUST as GOOD
JUST as CHEAP
and
Much Quicker

Sole agents for Victoria :

LAWFORD'S FRUIT EXCHANGE PTY. LTD. DONCASTER

Victoria

Orchard Practices and Crop Reports: Pruning Fruit Trees:
Apple Exports.

VICTORIAN FRUIT CROPS.

Seasonal Report to End of July, 1927.

The Superintendent of Horticulture reports:—

In the Goulburn Valley districts, including Kyabram, the appearance of the fruit buds of all canning varieties of peaches indicates a heavy crop. Early dessert varieties also look well, and if these hold their buds, which in some seasons are shed badly, a good crop should result. Late freestone varieties are not largely grown, having been worked over to Clings, but those under cultivation promise well for a crop.

Plums and Prunes also give every indication for a good crop. Pears and Apples in all parts of the State are very promising, and the healthy, well-developed buds indicate a heavy crop. The Apricot is practically the only tree fruit that is not showing well so far as yield is concerned. Passion vines suffered severely through frost damage. Those in low-lying situations had about 25 per cent. of the fruit damaged.

The fruit in cool store at the first of the month was approximately 234,000 cases, which is considerably less than at this time last year.

Viticulture.

The winter continues to be dry. Welcome showers have fallen fairly frequently since the beginning of July, but the subsoil is still too dry in most districts; it has not received anything like its proper quota.

Where irrigation is possible a heavy watering during August is desirable. Too dry a subsoil in spring spells a poor bud-burst.

The dry conditions have in many cases delayed the winter ploughing, but pruning is well advanced.

The time for swabbing vines susceptible to Black Spot with acid iron sulphate solution is approaching. Attention to this work is very desirable, as Anthracnose showed up freely last spring. Dry conditions supervening, no damage was suffered, but traces of the fungus are sufficiently plentiful to cause a severe outbreak on vines that are not adequately protected, should we experience a showery spring.

Citrus.

The Navel crop is now being generally marketed from all parts of the State. Prices for quality fruit are

good. The frosts have, in many districts, been against the production of fruit of high-grade quality. Such fruit is bringing lower prices in the market.

Lemons are plentifully supplied on the market and prices are not high.

Mandarins are finding a ready market at fair prices.

The rains that have fallen are timely and have proved most beneficial in all Citrus-growing districts.

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
 { Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

ORCHARD PRACTICES IN VARIOUS DISTRICTS.

Growers' Experiences.

Doncaster (V.).—Red Spider, Peach Aphid, and Scale on trees should be dealt with as soon as possible. Spray with Red Oil or Crude Oil emulsion at the rate of about 3 to 4 gallons to 80 of water. These sprays must be used before the buds burst. Peaches should also be sprayed before the buds show pink for Curl leaf, with Bordeaux mixture or Lime Sulphur—Bordeaux preferred. Apples and pears can be done later for Black Spot with the same mixture.

In Doncaster, stable manure is chiefly used at the rate of about from 5 to 10 tons to the acre; green manuring is done to a certain extent where artificial manure is used.

The principal fruits grown are: Peaches, Pears and Lemons (varieties) Lemons, Eureka, Lisbon; Pears, Williams' Bon Chretien, Beurre Bosc, Packham's Triumph, Winter Nelis, Howell, Josephine de Malines, Keiffers. Peaches (table varieties chiefly), Sneed, Le vanqua, Briggs, Anzac,

Smith's Seedling, Pumps, Wiggins, Zerbe's Early, Late Crawford, and a few other varieties.

Ploughing is the principal operation during August and September.

The dry summer has been very severe on the trees, though they are showing an abundant crop of buds, and should we get a good rainfall this winter, there will be a heavy crop of every kind of fruit.

This district has had a very fair to good season, as the prices have been exceptionally high, and Pears, Peaches and Lemons had a fair crop.—A. F. Thiele, Doncaster.

Tresco (V.).—Spraying will be carried out with Bordeaux mixture on all vines, in early spring, some growers using the "Cloudform" dust method of application, to combat Black Spot and other fungus diseases.

Fertilising.—An application of 5 cwt. per acre of blood and bone manure, in many cases qualified by an application of 2cwt. Super applied during late August or early September.

The principal fruits grown in the district, which is mainly devoted to this industry, are Doradillo Grapes for distillation purposes, Sultanas for Dried Fruit, Citrus Fruit.

Cultural practices during August and September include plowing in green manures, and general ploughing preparatory to the first irrigation.

The Department of Agriculture is at present carrying out experimental work on Mr. Sloane's block, under the supervision of Mr. F. R. Read, M.A.G.S.

Results from all vine fruits have been very satisfactory, about 100 tons Dried fruit being sent to Woorinen for packing, and 1900 tons of Doradillos sent to distilleries for distillation.

There are no new developments in the district. Prospects for Citrus are for light crops all round. This year general prospects are good, and a good season is anticipated for our fruit for 1928.—J. P. Greenwood, Tresco.

Bunyip, Victoria.—In Bunyip and Garfield the chief fruits grown are Apples and Pears. Every grower has a few Cherries and Plums, and there are some Lemons. Apricots and Peaches are rather scarce. In Apples we find Jonathans, Rome Beauty, Delicious, Rokewood, and Yates our most profitable varieties, and among the Pears Williams' Packham's Triumph, and Beurre Bosc. On the hills north of the railway to Sale fruitgrowing is the main industry, and there are miles of suitable land available. The soil varies from light grey

to red, with a splendid clay subsoil. The basis of the hills is granite, and the color and flavour of our Apples are excellent.

Spraying.—On some varieties of Apples this season Red Spider eggs are very abundant, particularly on Rokewood, Delicious, and Sturmers. Oil sprays are used to destroy this pest, as late in the season as possible, for many growers believe the oil to be far more effective after the mites hatch. Crude oil is used in most orchards, emulsified with soft soap.

There is a reaction in favour of Bordeaux Mixture for Black Spot. Some orchardists think that the strong lime-sulphur sprays when the trees are in blossom destroy the pollen, and are the cause of the light setting of the fruit during the last three years. We have used lime-sulphur, 1 in 15, as the buds open, and 1 in 30 in full blossom, but this season we intend to carry out experiments with the Bordeaux Mixture, as the buds separate, followed by lime sulphur 1 in 40, with the first lead spray.

Experiments.—The discussions as to methods of pruning, spraying, and manuring, following the papers and addresses given at the Beaconsfield Conference, have roused much interest, and much more experimental work than usual will be carried out this season.

A sub-committee of our local Association has drawn up a series of experiments in spraying and manuring, and every grower in the district will carry out one or more of these on a special group of trees. The same treatment will be continued for three years, to allow for seasonal variations, and a sub-committee of three will inspect these trees twice a year, and report to the Association. In this way we hope to obtain results that will be of genuine value. Usually growers try experiments, but they seldom continue them long enough to establish a conclusion.

Manuring.—Most orchardists in our district are manuring their trees, using a complete manure, containing superphosphate, nitrates and potash. Green manuring is not regularly practised. Usually there is a plentiful growth of weeds in the winter and early spring, and these are thought to be sufficient to maintain the humus in the soil. The use of heavier applications of fertilisers stimulates the growth of trefoils and vetches, but it is probable that green manuring will be given more attention in the future.

Although the Bunyip Cool Store closed this year in May, growers have come to realise its value, and it is likely to be enlarged in the near future.—Fred Thomas, Bunyip.

Pakenham Upper. — Black Spot Spray Programme.—Spray first when majority of blossom buds are showing pink, lime sulphur solution 1-18; second, when majority of petals have fallen 1-30; later sprayings, if necessary, 1-40.

Codlin Moth.—First, about three weeks after petals have fallen, two subsequent applications at 4-week intervals, with arsenate of lead paste 1-22.

Manuring.—An application of super is given in autumn, 3 or 4 cwt. to acre. In September 2lb. each of muriate of potash, and sulphate of ammonia to each tree at full bearing age are applied. One-third of the orchard is green manured with peas each year.

The Apple is the principal fruit grown in this district, the main varieties being:—Jonathan, Yates, Roke-

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

wood, Statesman, Delicious, Romes. Several growers are planting some Granny Smith.

Fruitgrowing is the principal industry in this district. The work during August includes the completion of pruning, and spring plowing. The first spraying for Black Spot takes place towards the end of September, during which month the spring tooth, or disc harrows, are used to put the surface soil in good condition for the conservation of moisture.

The results of the recent season were very poor as a result of the Thrips.—W. H. Carne, Pakenham Upper.

V.C.C.A. AND FRUIT COUNCIL.

The statement by Mr. Cook of the Victorian Central Citrus Association, at the Cool Stores Conference, that his Association had again considered the matter of joining up with the Fruit Council, and there was now a fair likelihood of their coming into the fold, was greeted with applause.

PRUNING FRUIT TREES.

A Suggestion to Prevent Bruising of Windfalls.

Support for the pruning methods advocated by Mr. T. H. Grant, in a recent issue of the "Fruit World," is expressed by Mr. E. F. Atherton, of Diamond Creek. He points out, however, that growers must study their individual soil conditions. On good land the trees can be allowed to carry a much heavier crop than on poor soil. He states that in his locality he finds it necessary to prune fairly heavily to obtain size in the fruit.

Referring to the heavy losses through wind, Mr. Atherton suggests that circular pieces of canvas should be stretched under the trees to catch the falling fruit. The centre of the canvas should be attached round the trunk of the tree, and the edges pegged out to correspond with the spread of the branches, forming a gentle slope towards the trunk—something like an inverted umbrella. The fruit falling on the springy canvas would roll gently to the lowest point, and it is suggested that the amount of bruising saved would be worth the expense.

Mr. Atherton states that the root-borer is a very serious pest in the Diamond Creek district. Orchardists generally have had a bad time this season.

VICTORIAN APPLES IN LONDON.

The "Cathay" Shipment.

The Horticultural Division of the Department of Agriculture has received a report regarding the Victorian Apples shipped to London ex s.s. "Cathay." Among these, Granny Smiths realised 25/- and 30/- per case, and Esopus Spitzenberg from 11/- to 14/- per case.

The Department was advised that a number of cases labelled "Cleos." were not Cleopatra at all. They arrived in very bruised condition and realised only 6/- a case.

As an example of the value of careful packing, 24 cases of slack packed Apples realised 6/3 per case, whilst others from the same grower which arrived in good condition brought 13/- a case.

Herewith please find cheque for my subscription to your valuable paper. . . . Regret very much that I have overlooked this matter, as I value your paper immensely.—R.A.Z., Kurrajong, N.S.W.

Canning Fruits

SHEPPARTON CANNERY.

Last Season's Operations Reviewed.

At a meeting of the fruitgrowing shareholders in the Shepparton Cannery on July 23, Mr. A. W. Fairley, managing director, stated that the end of the company's year was approaching, and a very satisfactory balance sheet would be presented.

Due to a lighter crop and losses from pests, hail, and wind, the quantity of fruit treated was less in the last season than was expected, having been 1,306 tons of Apricots, 836 tons of Pears, 542 tons of midsummer Cling Peaches, 2,550 tons of Pullar's Clings, and 211 tons of jam fruit—a total of 5,445 tons, compared with 6,093 tons in the previous season, and 5,085 tons in the 1924-25 season. The pack processed was 5,492,521 of 30 oz. cans, and 688,344 of 16 oz. cans.

Last year £43,000 was expended in new buildings and new plant, making a total so spent in the last two years of £84,370. Before the opening of

sociation to provide a reserve fund to compensate growers for losses of fruit from hail. Last year fruit was taken from growers under contract, which practice would be made to apply to the forthcoming season.

Replying to questions, Mr. Fairley said that due to the dumping on the British market of surplus Californian canned fruit, the outlook for the Australian export trade was rather gloomy. Still there was a feeling in London in favor of Australian fruit, and 7/6 had been received for consignments from here against a quotation of 6/6 for Californian.

SMALLER CANS FOR SMALL FRUIT PACKING.

It is pointed out by canned fruit brokers in the Pacific North-west that the 1926 pack statistics of canned fruits in Oregon and Washington show a rapid progress toward smaller cans. These smaller cans can be sold at more popular prices and there is said to be a pronounced drift of buyers away from the larger and more expensive (to the consumer) sizes of can. The eight-ounce can has made its appearance in some force in small fruit packing in Washington and Oregon, and this is thought to be the beginning of a somewhat new sized item in fruit canning that will go to large volume in the big cities. The chain stores are rapidly switching to the smaller cans for berries, which contain an average meal for an average family, that can be sold at a reasonable price. The same tendency is to be found now in cherries, in which the present No. 2½ can retailing at a material price contains too much for prompt use in small families.—"California Fruit News."

CALIFORNIA CANNERIES MAKE RECORD.

Fruit packed at canneries in California during the year 1926 totalled 20,794,700 cases, a gain of 34 per cent. for all fruits canned over the preceding year, according to a recent survey by the University of California.

The Cling Peach pack last year totalled 13,654,758 cases, a gain of 47 per cent. over the preceding year. Apricots with 2,290,418 cases, made a gain of 54 per cent. Freestone Peaches showed a loss of 32 per cent., with a pack of 817,319 cases. Cherries made the biggest gain, 136 per cent., the pack being 526,620 cases. Plums gained 28 per cent., the total pack being 228,750 cases.

In 1922 the total pack of canned fruit was 15,477,865 cases. In 1923 it was 11,361,536 cases. In 1924 the pack was 10,362,988 cases, and in 1925 the pack was 15,631,852 cases.

CANNING OF FIGS DEVELOPING IN CALIFORNIA.

Canning of figs, says a writer in a recent article on methods of canning Figs in California, is becoming an important industry in California, and bids fair to enjoy satisfactory growth. It must be remembered, however, he says, that the product is new and requires much introductory work for development of markets, and anyone expecting easy profits therefrom would be disappointed. One of the important drawbacks to the canned or preserved Fig as first put up has been that they have been too rich and sweet, and consequently not easily possible of being consumed in large portions at a time. Development is progressing here in putting Figs up in a medium syrup, however.

It is being found that people like this product in cans, where the methods of canning are satisfactory to the general taste and the canned Fig will undoubtedly eventually take its place with other canned fruits. A number of our canners are interested in this line, and are putting out increasing quantities.

BARRELLED FRESH PRUNES.

Fresh Prunes packed in barrels and frozen, is the latest. The Capital Journal of Salem, Oregon, in a recent issue, tells a story of this new method of handling fresh Prunes for marketing. The process is similar to that being used in the barrelling of Strawberries, and which has developed quite satisfactorily and into quite an important industry in the Pacific North-west in the last few years. It is said that a Prune business, to be handled similarly, has big promise in Oregon. One firm last year, this news says, put up 1,300 barrels of fresh Prunes, frozen, for an English buyer.

The Prunes are cut in half, pitted, and then frozen in barrels, in their fresh state, and then held for the market, just as with the barrelled Strawberry business. As an experiment last year in Oregon, it was found successful and Prunes so prepared and shipped to England have kept and sold on a basis that returned a profit. It is, accordingly, expected that Oregon Prunes, fresh, will be prepared in this way in quantity next year, and orders from those who operated in the experiment last year are anticipated in some volume next season.

COVENT GARDEN,
LONDON

Ridley, Houlding
& CO.,

Large Receivers of Australian
Fruits.

Solicit Consignments of
Apples, Pears, &c.,

Best market prices and prompt
account sales returned.
Correspondence invited.
Representative in Victoria

THE
International Fruit & Mercantile Co.,
410 Flinders Lane, Melbourne
MURDOCH BROS., Hobart

the approaching season new canning enamel benches, a new grading machine, a large new weighbridge, new settling tanks, new syrup tanks, and two compound applying machines were to be installed.

Practically all of the pack, inclusive of the carry-over from the previous season, had been sold, the sale in New Zealand and in every State of the Commonwealth, except Queensland, having shown a considerable increase. After allowing for an increase in the price paid for fruit, the cost of producing a dozen cans had been again reduced in the last season, which had been an annual experience for the last few years.

The directors could not accede to a request from the Irrigators' As-

N.Z. INSTITUTE OF HORTICULTURE.

Valuable Work in Bud Selection.

The Annual Conference of the New Zealand Institute of Horticulture, held in Wellington on July 7, was attended by delegates representative of all the horticultural interests of the Dominion, and presided over by Mr. F. J. Nathan, of Palmerston North.

In opening the Conference, the Attorney-General (Hon. F. J. Rolleston), acting on behalf of the Minister for Agriculture, referred to the good progress made during the past year, and stated that the Government had decided to continue its grant of £100.

In reviewing the work of the year, the President said it was hoped that an Act would shortly be passed authorising the Institute to grant diplomas in horticulture to those who passed the necessary examinations. Good progress has been made with the scheme for the establishment of National Botanic Gardens, and the Institute was working hand in hand with the newly formed Department of Scientific and Industrial Research.

The annual report referred to the period of economic stress through which the Dominion had passed, but stated that the outlook had now definitely improved. The Nomenclature Committee had done definite work during the year, and there was great need for its active prosecution. The work of bud selection was proceeding satisfactorily. Over 25,000 buds were cut and distributed without cost to the Institute, orchardists providing the buds free, the nurserymen paying the out-of-hand expenses, and the Secretary giving his time free. The New South Wales Government was interested in this work, and had sought advice from the Institute.

ORCHARD PRACTICES AT WHANGAREI, N.Z.

Spraying.—Growing only Lemons, Oranges, Peaches, and a few Pears, my spring spraying programme is very limited—6-4-40 Bordeaux on Peaches when just coming into bloom to combat leaf curl, and on Pears then and later with arsenate of lead to combat black spot and codlin moth.

Manuring.—I use about 6 lbs. per tree once a year in early spring of a balanced manure, consisting of super., sulphate of ammonia, and sulphate of potash, and a light dressing to Citrus trees of nitrate of soda, 1½ lbs. a tree two or three times a year. Not much green manuring is done, chiefly Blue Lupin.

Principal fruits grown here are Apples, Pears, Plums, Peaches, Lemons, Oranges.

Fruitgrowing is a dying industry here; the spreading town has absorbed most of the old orchards, and very few new ones have been planted. Dairying has taken the place of fruitgrowing.

In August and September cultural practice consists of finishing pruning, spraying and manuring in August and cultivating the ground.

Last season was a poor one, Apples, a light crop; Pears, ditto; all stone fruit very light; Citrus fair. The present winter crop is heavy.

There are no new developments as far as I know.—L. Hanlon, Whangarei, N.Z.

FIGHTING INSECT PESTS IN THE ORCHARD.

Erinose (Mites) of Vine.

This pest is a mite. The mites are silvery white or light yellow. They cause thick felt-like pads made on the underside of the leaves, causing a swelling on the upper, and a depression on the lower surfaces of the leaves. They conceal themselves in cracks or under the bark or under the scales of the buds in winter, and appear in spring as soon as the buds open. The blisters cover the entire under-surface of the leaf.

Remedies.—Sulphuring the vines early in the spring soon after the buds open, is usually sufficient to hold this mite in complete subjection. Lime sulphur, 1-13, is also recommended as a winter spray.

Painted Apple Moth.

The tufted caterpillars of this very destructive moth have made their appearance in fair numbers. Like the caterpillars of the light-brown Apple moth, they attack practically every kind of garden plant. Spray with arsenate of lead.

Light-brown Apple Moth.

The small active green larvae of these moths are very plentiful at present. They attack practically all kinds of plants, and cause much damage by eating into young flower buds and leaves. Spray with arsenate of lead.

Looper Caterpillars.

These caterpillars will soon be making their appearance on Apple trees. They destroy the foliage, and when the young fruit is forming bite small holes in it. Spray with arsenate of lead, 1 in 25.

Red Spider and Bryobia Mite.

These very destructive mites will soon be hatching. Owing to the exceptionally dry season last year, it is probable that they will be more plentiful this season than is usually the case.

If spraying is carried out with any of the nicotine sprays, as recommended against Peach Aphids, these mites can readily be destroyed.

Thrips.

Keep a sharp lookout for these insects when flower buds have formed. Spray with nicotine sulphate or black-leaf 40. Benzole emulsion, 1 in 5, is also recommended.

Peach Aphids.

These are now becoming numerous on Peach trees. A spraying with red oil, 1 in 30, in early spring or late winter, is best, but in warm weather spraying with nicotine sulphate or blackleaf 40 could be carried out.

Scale Insects.

Keep a lookout for young scales hatching, and spray with nicotine sulphate or black-leaf 40. For small gardens use 1 oz. of these nicotine sprays to 5 gallons of water, add ¼ lb. of soap.

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

Pear and Cherry Slug.

Spray as soon as leaves have developed and while fruit is forming. Use arsenate of lead, 1 lb. to 25 gallons of water.

Apple Root Borer.

These insects are already making their appearance on Apple trees in the warmer fruit-growing districts of Victoria. During the last few weeks quite a number have been found on Pear trees in the Goulburn Valley district. It would be advisable to give the trees a spraying with arsenate of lead. Spray on warm days. Jarring the trees over an old blanket will cause all borers to drop. They should then be picked up and destroyed.

Codlin Moth.

Inspect trees thoroughly and remove all loose bark and burn bark at once. This will destroy the chrysalids and hibernating larvae of the moths. The inside of all packing sheds should be sprayed with lotol or kerosene to destroy chrysalids in crevices of building. Dip fruit cases in boiling water. All hessian bands

should be removed from trees and placed in boiling water to destroy chrysalids.

Orange Aphis.

These very destructive insects appear on the young growths in early summer. They are black in color and simply cover the shoots. By sucking out the sap the shoots turn black and die. They are easily controlled by tobacco sprays such as nicotine sulphate or black-leaf 40.

Cherry Aphis and Cut-worms.

See "Fruit World," August 1, 1927, p. 331.

Woolly Aphis.

Spraying for these destructive insects should be continued. The best time to apply the spray is during the winter, when the trees are free of leaves. It has, however, been used in October on trees in blossom, and no burning occurred.

To prepare sufficient mixture to

treat 100 trees, 1 lb. of soap should be boiled in one gallon of water till dissolved; add one gallon of red oil and mix thoroughly; then add one pint of nicotine sulphate, and after mixing the whole for a few minutes, add 80 gallons water. If water is hard, a small piece of washing soda should be added.

The woolly aphis parasite (*Aphelinus*) should be introduced into every orchard affected with woolly aphis.

SUBSCRIBERS' PAYMENTS RECEIVED.

We acknowledge with thanks having received, at Head Office, the following renewal subscriptions from our readers from June 30 to August 20, 1927. Except where otherwise stated the payment credits the subscriber to June, 1928. The list does not include payments to our branches and agents in the other States, nor deliveries through our wholesale distributors.

F. Adamson, Angaston Fruitgrowers Co-op., J. Alexander, F. Attenborough, F. J. Andrews, A. J. Arnot, Wm. Anker, G. H. Atkins, J. W. Andrew, Adelaide Chem. & Fert. Co. Ltd., Abbots Bros.

(June, 1929), E. Ashby (June, 1930), Geo. Arbuckle (June, 1930), Airedale Orchards (June, 1931), B. Burgi, H. B. Barnett, Bender & Co., H. W. Von Bertouch, Wm. Baker, W. G. Bailey, A. W. Brain, R. G. Bell, W. J. Bishop, S. Beavis, B. J. Bennett, Brown Bros., J. Baker, H. Birmingham, O. C. Batchelor, E. E. Bryant, J. Baldwin, C. M. Brooke & Son, E. C. Burgess, P. Beccroft (June, 1927), A. Buchter (June, 1929), Burgi Bros. (June, 1929), W. G. Boyd (July, 1927), J. Bunce, (June, 1929), T. N. Cuttle, G. Costin, R. M. Cohen, H. G. Caldicott, W. H. Carne, E. R. Cottler & Co., A. Cullen, A. J. Campbell, J. A. Cutto, W. Cawood, Christchurch Nursery Co., Chas. Cooper, D. V. Chapman (June, 1927), A. G. Carne (July, 1927), H. K. Chapman (Dec., 1927), H. C. Connor (June, 1929), F. Dwernt, E. S. Davidson, G. Duffell, J. T. Davern, C. Davies, J. Donaldson, Geo. Davies (Jan., 1929), J. Davis (June, 1929), Mrs. M. Ellis, E. A. Everett, A. Elms (June, 1932), Sir J. G. Fraser, C.M.G., Leonard Friend, Wm. Fitzsimmons, N. W. Filsell, R. B. Fulton & Son, A. V. Fullard, E. C. Fankhauser, E. F. Foran (July, 1927), H. Greene, A. J. Goode, S. W. Gould, Griffith Prod. Co., Ltd., A. W. Goodhew, Thos. Caudion, A. G. Gunner, C. Gubbler (June, 1927), Ben Shaw (March, 1928), M. B. Geneste (June, 1929), C. R. Glover (June, 1931), A. H. George (June, 1931), A. J. Humberstone, L. A. Harris, G. A. Hunter, P. Hansen, R. H. Hall, T. J. Herbert, R. H. Hunt, H. W. Howarth, C. W. Hammerling, J. Hodges, A. Hochkins, S. Hartwick, W. J. Hanna, H. G. Harcourt, J. Hahn (June, 1927), Chas. A. Higgs (June, 1927), N. Jacques, James & Allwood, D. L. James, G. S. Jenkins (June, 1930), E. Kolling, T. H. Kingston, S. J. Kellaway, J. B. Kreg, G. Kne, Jun. (June, 1927), Robt. Kilpatrick (June, 1931), Thos. Lawford, E. I. Lawford, P. Lawrey, W. Littlefield, A. S. Lowe, E. C. Levitt, T. H. Latch, E. Leisham, Lauer, H. M. Leggo & Co., Lyrup Village Assn. (June, 1927), N. B. Lee (June, 1927), P. May, E. V. Matson, A. F. Morant, W. Muir, Jas. H. Mason, W. Merchant, G. A. Meier, Murray View Irrig. Co. Ltd., Alex. Malcolm, W. McIver, McKillop & Son, W. G. McLaren, R. S. McPherson (July, 1928), E. W. Neilson, N.S.W. Central Citrus Assn., C. H. Ozanne, D. Ockenden, Eddington, O. E. K. Petersen, S. Plush, R. W. Peacock, Pryde Bros., J. A. Parkes, R. W. Pettman, H. S. Petersen, E. C. Pratt, Seward Plush, J. Porter, D. Park, E. F. Page, Page Bros., Thos. Petty, F. Pike, S. Phillips, E. B. Pizley (June, 1929), A. Payne (June, 1929), H. G. Reynolds, A. B. Robin, Don. du Rieu (June, 1930), H. Richardson, Wm. Reyne, V. Rutland, J. E. Raymond, S. Redgrave, Renmark Frwgs. Co-op. Ltd., C. R. Ratcliffe, C. H. Ragless, G. Richards, J. Robinson, T. Shortridge, Studley Pres. Co., A. E. Stanford, John Stevens, I. L. Stone, C. F. Scheuffele, N. Spencer, J. Scharkie, J. Sagar, A. Snelling, E. C. Short & Son, J. & T. Swan, J. Shuker, Mrs. Shead, Wm. Smith, G. H. Sprague, J. H. Snow, H. W. Smith, H. S. Smyth, H. Scarce, D. A. Smith, Swan Settlers' Assn., Val Sheaf, Sheehan Bros., O. Sparks, Settlers' Club, Mildura, C. Summers, D. Senior, A. Steen, Sth. Aust. Cold Stores, S. Sandow, D. G. Stark, C. A. Stubbington, S. H. Scott, F. E. Stuchbery (June, 1927), H. A. Stubbs (June, 1927), D. C. Suttor (June, 1929), S. S. Strutt (June, 1930), J. P. Tooby, Tas. Hort. & Frwgs. Assn., Toomuc Valley Orchards, J. Thomas, S. A. Thornell, Eric Thiele, G. Tarr, H. M. Terry, H. A. Turner, W. Toyer (June, 1927), S. G. Vaughan, L. H. Veat, J. Vickers, I. Weir, H. Wicks, A. P. Wishart, C. Walker, Westralian Farmers Ltd., Leigh Winsor, A. W. Wise, Wagga Exp. Farm, Bomen, T. Watson, Waterman Bros., G. L. Wishart, F. C. Wood, J. E. Williams (June, 1927), G. Wood, Son & Co. (June, 1927), E. E. Wills (June, 1927), E. H. Williams (June, 1927), E. R. Ward (June, 1929), E. Zimmerman, H. G. Williams, W. Wightman, Estate of late G. Western, E. G. Wood, G. Watkins (June, '27), K. H. Webb (June, '29), Geo. Wills & Co. (May, '28)

Nowadays there's a lot of talk about

Nitrogen,

and sales of

Sulphate of Ammonia

(Australia's best and cheapest source of the supply of Nitrogen)

were higher for the year ended 30th June last, than ever before —so much higher in fact that we can only conclude that the users of

Sulphate of Ammonia

have at last found out that

"There's money in it."

When down at the Show, come and talk over the nitrogen question with us at Stand No. 248, Staughton Avenue, Showgrounds.

THE METROPOLITAN GAS CO.
196 Flinders Street, Melbourne

For Your Spraying

You should make use of this popular Auto-Spray Pump

For spraying trees, shrubs, vines, field crops, green houses and poultry houses, and for applying Paris green, arsenate of lead, Bordeaux, lime and sulphur emulsions, disinfectants, cattle-fly oil, whitewash, cold water paints, etc., the Auto-Spray Pump No. 1 is being widely used. Scores of thousands are in use, and its popularity is growing every day.



CONSTRUCTION

The entire machine is made without screws or bolts, and no tools of any kind are required to take it apart. The valves and washers resist oil and other solutions that attack rubber.

Diameter 7 in., height 2ft., capacity 3½ gal. weight empty 9lb., loaded 36lb.

A brass air pump is located inside the solution tank protected from injury.

Special Features: Strength, simplicity, and balanced construction, a nozzle which does not and cannot clog, an automatic shut-off device which saves the solution and operates without fatigue, spreader to prevent wrinkling leather cup, iron parts malleable, and hose of extra quality.

The whole outfit is a high-class product, and is built for solid service. **55/-**

Other Useful Types

"Success" Pattern Spray Pump, English Make. Will throw a constant stream without rapid pumping. Supplied with 3ft. hose and one Bordeaux patent nozzle. Is capable of giving a solid jet or the finest spray. Price 30/-.

Auto-Spray No. 5. Being made entirely of brass, it is corrosion-proof. Double acting pump gives continuous spray. Liquid is carried in knapsack on back, leaving hands free. Price complete 55/- Pump only, 25/-.

Auto-Spray No. 26, for small garden greenhouses, etc., only 8/6 each.

Write for Our Free General Catalogue

McPherson's
Proprietary Limited

582 Collins Street, MELBOURNE.
51-65 Bathurst Street, SYDNEY.
116-130 Waymouth Street, ADELAIDE.

THE FRUIT TREES OF VICTORIA.

Further Census Figures.

A CENSUS of the fruit trees of Victoria for the year 1926 has been issued by the Government Statist, by the authority of the Minister for Agriculture. This most comprehensive statement gives the number of trees (both bearing and non-bearing) of every species and variety for each district and county in Victoria.

A general review of the census was published in our last issue. Below are the figures relating to the principal varieties of Apples and Pears; those regarding other fruits will be published later

B stands for bearing; N.B. for non-bearing trees.

Variety.	Apples.		
	B.	N.B.	Total.
Alfriston	25,305	8,019	33,324
Buncombe	9,146	1,079	10,225
Cleo (N.Y.P.)	46,290	12,412	58,702
Cox's Orange	5,747	1,009	6,756
Delicious	46,112	75,146	121,258
Dougherty	4,952	783	5,735
Dunn's	91,761	18,893	110,654
Emperor Alexander	11,264	3,279	14,543
Esopus Spitzenburg	21,095	704	21,799
Fameuse (Pomme de Neige)	15,713	4,306	20,019
Granny Smith	21,936	29,672	51,608
Gravenstein	53,011	18,569	76,580
Jonathan	910,146	247,572	1,157,718
King David	35,648	6,304	41,952
London Pippin	183,438	36,636	220,074
Northern Spy	7,813	2,548	10,361
Reinette du Canada	42,801	6,935	49,736
Rokewood	38,668	6,348	45,016
Rome Beauty	253,012	98,555	351,567
Rymer	30,151	1,230	31,381
Statesman	35,240	12,748	47,988
Stewarts	56,303	35,452	91,755
Stone Pippin	23,053	1,514	24,567
Sturmer	18,428	3,524	21,952
Tasma (Democrat)	8,506	23,620	32,126
William's Favourite	21,864	2,491	24,355
Yates	135,140	57,251	192,391
Other varieties	124,274	34,447	158,721
Total	2,281,817	751,046	3,032,863

Variety.	Pears.		
	B.	N.B.	Total.
Beurre Bosc	80,168	32,500	112,668
Beurre Clairgeau	3,159	552	3,711
Beurre de Capiamont	26,727	3,326	30,063
Black Achan	5,139	1,328	6,467
Broom Park	14,863	7,265	22,128
Doyenne du Comice	1,085	196	1,281
Gansell's Bergamot	5,736	307	6,043
Glou Morceau	5,760	952	6,712
Howell	36,600	10,432	47,032
Josephine de Malines	38,891	17,740	56,631
Kieffer	51,324	9,104	60,428
Marie Louise	7,023	1,049	8,072
Packham's Triumph	55,112	46,608	101,720
Vicar of Winkfield	12,648	1,546	14,194
Williams (Bartlett)	376,609	85,222	461,831
Winter Cole	30,549	10,198	40,747
Winter Nelis	28,648	14,587	43,235
Other varieties	23,293	4,429	27,722
Total	803,344	247,341	1,050,685



Used "KARSWOOD" for one month— will now never be without it

WINTER, like an envious old hag, is still clutching at the skirts of Spring.

To-day the wrinkled old witch may regain a temporary ascendancy, but to-morrow Spring will triumph.

So it goes on with the days ever lengthening. The denizens of the poultry world are responding to the advance of the warmer weather. But, remember that with the greater effort being put forth by fowls the sudden changes met with this month can

easily play havoc with the health of your birds. Safeguard their health and insure a high-peak average of eggs, not just for a week or two, but right through the Spring, well into Summer. It is quite easy to do this. Simply feed Karswood Poultry Spice to your fowls and Nature does the rest.

Proof of what feeding with "Karswood" means is here eloquently given. Read it, and then give Karswood a trial. One 1/- packet is enough for 20 birds for 16 days.

"Will Never be Without It."

Dear Sirs,—

I have been using "KARSWOOD" POULTRY SPICE for one month, and I now desire to state that I will never be without it. Its effects on my 12 Black Orpington Pullets are truly marvellous. Every day, from a week after I had started them with "Karswood," I got from the 12 pullets either 10 or 11 eggs. Yesterday not one missed; we got 12 eggs. Before I started with "Karswood" I had a flock of 50 B.O. Pullets. I sold 38 of these which left me 12. I may state the 12 birds I have were picked out at random as none of us are poultry experts. The owners of the 38 birds purchased from me have not used "Karswood." They have been getting an average of six eggs per day from them, putting this down to the severe weather we have had down in Gippsland lately. This only seems to emphasize the wonderful effect of "Karswood" on my 12 pullets that have laid so remarkably well in this severe weather. The manufacturers of "Karswood" Poultry

Spice, I feel sure, are certainly entitled to claim that "Karswood" puts Profit in Poultry. I do not consider I am wasting my time in writing you this, as I have had long experience with Poultry, but never—how much I tried—have I had results like this, therefore my pleasure in writing.

(Sgd.) CHARLES C. EVENDEN,
South Gippsland.

Make This Test.

Go to your local grocer, storekeeper, or produce dealer. Get a 1/- packet of Karswood Poultry Spice, and give it to half-a-dozen of your birds, in accordance with the directions on the packet. Do not expect immediate results; Karswood works naturally, not suddenly. It takes at least a fortnight to produce results, but they are good and sure.

Supplies.

Karswood Poultry Spice is obtainable at all wholesalers and stores at the following standard retail prices:—½lb. packet, price 1/-; 1lb. packet, price 2/-; 7lb. tin, 13/-; 14lb. tin, 25/-; 28lb. tin, price 48/-.

POULTRY NOTES.

September.

(By James Hadlington, N.S.W. Poultry Expert, in the "Agricultural Gazette.")

HATCHING OPERATIONS should be brought to a conclusion this month, which means that no eggs should be put down for incubation after about the 9th. If this rule were more rigidly observed many disappointments in rearing would be avoided. It is quite understood that here and there better results are secured perhaps than is generally expected with chickens hatched after September, but these are the exception, and not to be expected.

Whatever odd experiences are met with in this connection, it is a bad practice for the commercial poultry farmer to attempt late hatching; yet every year one sees thousands of chickens hatched in October and even later, which never are profitable to the farmer. The exceptions to this rule, where they do occur, are mostly where some specially favorable condition is present, such as new ground that has not been previously used for chickens.

This warning is perhaps even more necessary in the current hatching season than when conditions are more normal, owing to the fact that, if happily there should be a favorable turn in respect of the price of foodstuffs, there might be a fairly general attempt to make up leeway in respect of the falling off in the number of chickens so far hatched this season. It will, however, be a mistake to make any such attempt. The writer is not particularly keen about advocating summer or autumn hatching, except under special conditions, but should the cost of feeding come down a considerable extent it would be much better to make a small hatching during February and March than to prolong the spring hatching beyond the end of this month.

The outlook for the commercial poultry farmer is at present anything but promising, and many will have a big struggle to get through without running undue risk with unprofitable flocks but to those who can weather the adverse conditions prevailing, I would say, "stick to your farms." Such conditions have prevailed before and will come again, but in the interim there is generally a better time.

High Cost of Feeding.

Much attention is now concentrated upon the problem of high cost of

poultry foodstuffs, and it is realised that the present position of the poultry industry is rather discouraging, but it will be odd indeed if relief is not presently afforded in some way or other. In the meantime economy should be the slogan. Cut out unprofitable units in the flock, carry no more cockerels than is absolutely necessary, closely scan every item of food purchased, do not be led away by some much-boomed "make the hens lay" stuff, but rather rely upon your own skill and judgment, and feed simple rations such as are laid down in "Rearing and Feeding," or in "Poultry Farming in New South Wales," using the substitutes (if they are cheaper) that are mentioned in the latter publication.

Particular attention should be paid to the possibilities of Lucerne, though it must be remarked that many farmers are already using too much succulent Lucerne in the morning mash. That practice can only result in partial starvation of the birds, and consequent loss of production. Particularly will this be felt about October and November on the turn from the peak of production and onwards. It has already been emphasised in these notes that poultry are not equipped with the capacity for dealing with bulky materials in quantity sufficient to allow of adequate nutriment for them.

It has previously been shown that as much as 20 per cent. of the mash might be Lucerne. It can be fed in the form of chaff, meal, or dust. The last is a product from under the chaff-cutting machines, while Lucerne meal is specially ground from baled dry Lucerne, but it is for the most part too high in price.

Dry Lucerne—A Suggestion.

Lucerne chaff of prime quality and fine cut is quite all right to incorporate in the mash, having much the same food value as bran. Unfortunately, good Lucerne is generally high in price when other foods are scarce, and the moral lies just here—that poultry farmers should grow more of it, and instead of feeding too much in the green succulent state, should make a portion into Lucerne hay and then cut it into chaff, in which form it can take the place of 20 per cent. of the mash. As a matter of fact, 20 per cent. of dry Lucerne in a ration would contain rather more food value than 60 per cent. of green Lucerne. This, too, would allow of the usual quantity of succulent green feed being supplied in addition at other times of the day.

It should be realised that many make the high cost of feeding still

higher by what might be termed fads in feeding.

It would be well for every farmer to keep a check on the cost of feeding as against egg production, taking into account the seasonal expectations of laying month by month. For this purpose take the average daily consumption of food by the laying stock (leaving out all other classes) and then compare the average daily or weekly tally of eggs collected with the average expectation for the particular month under review. Thus, on a farm carrying equal numbers of first and second year hens (what many term pullets and hens), the expectation for September on the basis of 12 dozen per hen for the year, would be 19 eggs, or a daily gathering of nearly two-thirds as many eggs as there are hens in the flock of layers. If this result is not being obtained, there is something lacking. As a matter of fact, the table of "expected laying" is made up on the basis of the minimum laying on which a farm can be made to pay, so that the actual laying should slightly exceed the expectation.

Taking a flock composed of equal numbers of first and second year hens, the following is the monthly expectation of laying on a 12-dozen basis of production:—

May	4 eggs per hen.
June	6 " " "
July	10 " " "
August	16 " " "
September	19 " " "
October	19 " " "
November	17 " " "
December	16 " " "
January	13 " " "
February	11 " " "
March	7 " " "
April	6 " " "

EARLY SPRING IN THE APIARY.

Bees will be showing signs of activity this month in the majority of districts, and bee-farmers must keep in mind the two essential points in early spring management, namely, stores and comfortable conditions. A surplus of stores must be on hand to induce brood raising, and the colonies should be kept snug to allow of the best results. The question of keeping the colonies warm does not apply so much to hives with a large cluster, but in a season such as this—a season that is following a poor one—it is very desirable that the weaker stocks (of which there are usually a good number) should be made comfortable. Where only a few combs are occupied in the hive, it is usually an advantage to place packing on each side of the cluster.

"To Choose the Best is Wisdom"

Royal Agricultural Show

September 15th—to 24th

On Stand 65, Plummer Avenue

The Display of

"Lightning" Products

Including Sizers, Elevator Conveyors, Potato Graders, Clamp Trucks, Packing Stools, etc.

will be absolutely the only exhibit of its kind to be seen in Australasia.

Working Demonstrations all Day and Every Day

Further Particulars and Catalog on Request.

You are heartily invited to visit our Stand, and bring your friends. It will be a pleasure to meet you.

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

"PURE CUSSÉDNESS" AND PACKING PEARS.

(By "Periscope" in the "Fruit, Flower and Vegetable Trades Journal.")

We think we are very clever—in fact, we are confident that we know it all.

We have an Empire Marketing Board whose mission is to guide, instruct, advise and "assiduously assist" the promotion and advance of Empire trade. Perhaps their function is not intended to cover the question of packing in a sensible way or of directing the methods employed by our colonial brethren, but the case in question is obviously one in which the purest common sense only is needed. I saw this morning (St. George's Day) some originally excellent quality Doyenne du Comice Pears from New Zealand which were simply spoiled by sheer neglect in packing, the neglect involving a direct loss of 80 per cent. of their (otherwise) market value! A somewhat lengthy investigation took place, and I found that New Zealand possesses the wood required but cuts it wrongly, and Australia does not possess the right wood, persists in using an improper substitute, and refuses to import what would make far better results and completely justify the expense. Cape Colony does

not possess the wood necessary for her export of fruit, but wisely bows to the inevitable, imports the wood, packs 99 per cent. of efficiency, and reaps the proper reward, or at least knows that if a poor price is realised it was not for lack of sense and effort in packing.

The grower-packer in New Zealand and Australia should simply wake up. The Comice I saw were just laid naked in the box, the wood being as hard, coarse and unsympathetic as possible. They would have probably realised £1 per tray, for the quality was A1; but the neglect—the utter, cussed, obvious neglect—brought the price down to 5/- and 2/- per tray. It served them right, but the shame of spoiling such luscious fruit, the disgrace and the sin, remains. Why is it that people who are clever at growing finest quality stuff are sometimes utter lunatics at packing?

It is true that private gardeners are frequently incapable in this way, and I have seen a 3/- trunk full of fine tulips, unbunched, without paper or stick to retain them in position, consigned by train to London from a well-known lordly estate, and that gardener resented being told he had packed badly, although their value was completely destroyed by his neglect. Now, if our Australian nephews are broadminded people, not "cocky," and

are willing to learn, let them note the following.

It will "pay" to import the right wood cut to the right size, rather than insist on using the local variety of wood, which is ultra-heavy, hard, unsympathetic and unsuitable in every way.

It will "pay" to wrap every Pear in properly cut paper, and perhaps two properly cut papers.

It will "pay" to use a soft, corrugated and perforated paper (?) for lining the boxes, or, preferably, generally to copy South Africa in this matter in every detail, depth of box, width of lids, spaces and cleats. The most delicious Comice I ever ate came from Australia, but cost far less than they should, owing to condition through bad packing (the Government being more to blame than individuals). It is lunacy to pack Pears to ripen on the voyage in shallow rigid trays with the Pears touching top, bottom, and sides. The trays should be 1 in. deeper than the diameter of the fruit, and some attention given to prevention of bruising and general presentability on opening.

Wood-wool or paper shavings to tighten up generally.

If these tips are insufficient in detail, do not wait until next year, but investigate the subject; and please do not send Pears which are in every

way excellent stuff but unable to command their proper value through neglect which is inexorable now, but later will be unpardonable. Like the costermonger, "I ain't a-arguin' wiv yer, I'm a-tellin' of yer!"

BRIDGE GRAFTING.

BRIDGE GRAFTAGE is made use of in repairing injured tree growth, and is of no value in propagation. Many trees are injured by rabbits, field mice and other animals, by the careless use of implements in the orchard, and by diseases. In the treatment of such injury the bridge graft is often very valuable. Its use is not nearly as widespread as it should be, says the "Canadian Horticulturist."

Unless about one-fourth or one-third of the bark of bearing tree trunks has been removed down to the wood or cambium layer, bridge grafting is not usually necessary. Where rabbits have gnawed the bark of the tree trunks practically all the way round, but have not peeled it to the wood except in spots here and there, bridge grafting as a rule is not needed. An application of house or barn paint (white lead and raw linseed oil) applied to the wounds only, will generally prevent drying and assist materially in healing the wounds. Trees which appear to be badly damaged by girdling will frequently heal their wounds quickly if paint or grafting wax is used properly in covering the wounds.

If the injury occurs in winter the wounds should be protected by a coat of paint to prevent drying. The grafting should be done in the spring as soon as the bark will peel freely. During the growing season, the operation should be performed as soon as the wound is found.

Trees from one to two years old, inclusive, which have been completely girdled or the bark removed down to the wood all the way round are usually handled most successfully by cutting them off a few inches above the graft and allowing one sprout to grow from above the graft. The best time to cut the trees back is just as growth is starting in the spring. With trees from three to five years of age, it is usually advisable to saw them off near the ground, and cleft graft the stub to the desired variety; while for trees five or more years old, bridge grafting is generally the best method to employ.

The operations of bridge grafting are as follows:—

1. Cleanse and cut away all irregular tissue to form a straight wound on both the top and bottom of the girdle or injury. The girdled area may be painted with either white lead and raw linseed oil or grafting wax.

2. Cut a slit just beneath the bark and slightly into the wood at opposite points at the edge of both the top and bottom of the girdle. This may be accomplished by pushing a grafting knife upward beneath the bark and then downward beneath the bark.

3. Select strong, vigorous scions of the current season's growth. They should be a little longer than the girdle is wide. Both ends of the scions are whittled to a wedge shape, making the wedge about 1½ in. long.

4. Insert the base of the scion into the lower slit.

5. With one hand holding the base of the scion in position, bend the scion until the upper end may be inserted at the upper slit. When both wedge-shaped ends of the scion have been inserted, the scion itself should be slightly arched. The spring in the

arched scion will assist in holding it firmly in place.

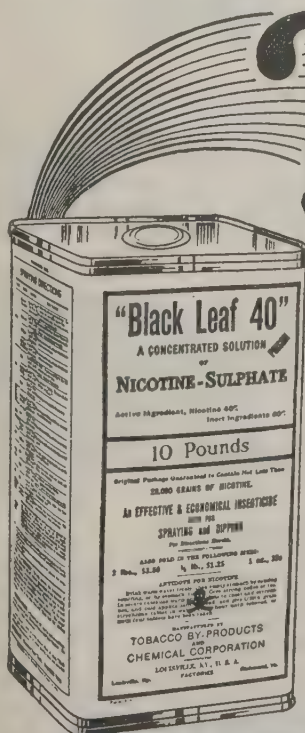
6. Small brads or tacks may be used to fasten the ends of the scion in place.

7. Insert more scions at intervals of 1½ to 2 in. until the injury is covered or the tree has been surrounded, if completely girdled.

Carefully wax the wounded tissue where the scions were inserted. Wax or paint may be used as a covering for the girdle. Rewax or paint as often as necessary to keep the cut surfaces and wounds covered.

Any kind of a fruit tree that may be propagated by grafting can usually be successfully bridge grafted. Apples and Pears, however, are more often bridge grafted than other kinds of fruits. Peaches graft less readily than the fruits mentioned, but the Plum and Cherry should lend themselves fairly well to this method of graftage.

Those who know how to do a thing do not find it difficult; those who find it difficult know not how to do it.—Confucius.



Why be satisfied with dwarfs and culls

Protect your fruit and rid your orchard and garden of Aphis and similar destructive insects at a cost of only a few cents a tree. "Black Leaf 40," the "Old Reliable" nicotine spray, is recommended by Agricultural Colleges and Experiment Stations. Spray singly or in combination with solutions for scale, codlin moth and other orchard pests.

Sold by leading Australian and New Zealand Dealers

Tobacco By-Products and Chemical Corp.
Incorporated
Louisville, Ky., U. S. A.

**Kills
Aphis**

"Black Leaf 40"

40% Nicotine

MONEY IN ALMONDS.

(By Fred. Charlick, Adelaide.)

YOU CAN'T DIG UP diamonds in your back yard, but you can raise quite a heap of silver there if you know how to do it, and try. Let me tell you how this is done:—

There are tens of thousands of Almond trees around Adelaide to the east and south of the city, and just now these trees are covered in blossom; every stalk and stem, however small, is covered with these pink and white blooms, in such profusion that they color the landscape. Nature has specially endowed Adelaide and its suburbs as a suitable area for raising Almonds. The contour of the plains with its sheltering hills, its freedom from frosts, and the wet sandy sub-soil, together with its position between sea and hills, does the trick; any odd spot in any back yard from Brighton to Tea Tree Gully, bounded by the foot of the hills and the sea, has one or more Almond trees out in full bloom and flourish.

In no part of the Commonwealth do they do so well, and some of the districts have large Almond groves,

particularly Marion, Edwardstown and Brighton. You can drive for miles along some of these roads with trees on either side, and some of the growers in the season bring in dray loads of Almonds to the city; just now the retail price is 1/5 in shells, and 3/- for kernels. It can easily be seen what a heap of silver is waiting to be picked up by householders and others who have a lump of land, and most of the Adelaide householders have a good slice of it attached to their homes with plenty of room for several trees. I have received a letter from a manufacturing confectioner in Melbourne advising that he uses 100 tons of kernels per annum, which is equal to 250 tons in the shell, and that he is unable to obtain his full supplies from us. There ought to be no reason why certain localities around Melbourne

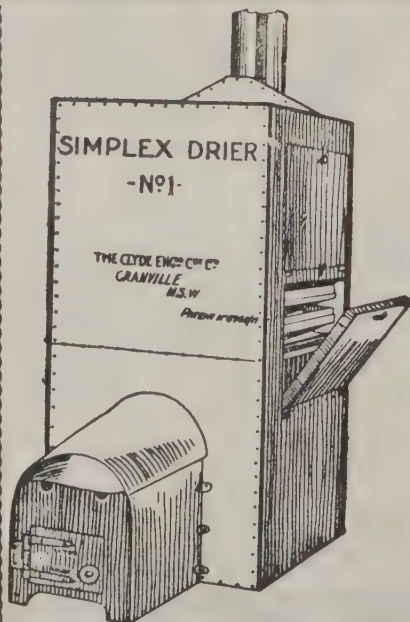
should not prove equally suitable for Almond growing if the right kinds were planted; this could be tested by experimenting with the various sorts. It has been found here that some of the kinds give abundance of blossom but are very shy in bearing, whilst others are heavily cropped.

Beside the utility part of Almond growing, there is a tremendous amount of sentiment that is inexpressible attached to the presence of these trees with their profusion of pink and white blossoms. There is such a luxuriance, such a riot of snowy white and delicate pink, a symbol of simplicity and purity. They seem to have a singleness of purpose in bearing profusely in certain favored spots, and the prodigality of blossom would point to big results of crop, but in most sorts they are shy bearers, and only odd nuts come to fruition. Their admirable coloring is so simple and yet they are marvels of construction, so regular in their formation, with their five petals so light and fragile in their make-up. The trees require very little attention, slight pruning in the early stages, and occasional manuring, and the results are both pleasing and profitable.



GIBBS, BRIGHT & CO.,—See Page VI

A good slogan: "Hats off to the past.
Coats off to the future."



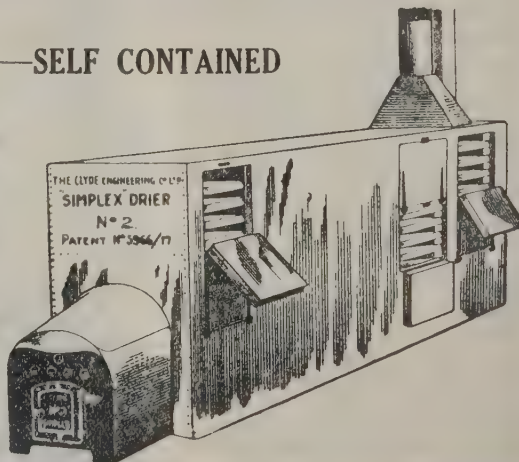
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
OR
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

SOME FACTORS WHICH DETERMINE THE SET OF FRUIT.

Fruit trees which are now blossoming will have a large number of the flowers drop, while a certain per cent. will stay on or set, and develop into a fruit crop. The commonest factor in the failure to set fruit is lack of pollination, writes Mr. E. L. Proebsting, Division of Pomology, University of California.

There are other factors that may have a bearing on the failure of the fruit to set. The weather exerts a profound influence on the function of the tree. Prolonged rain at the time of blooming may prevent the anthers, or pollen-bearing organs, from giving up their pollen. There could consequently be no chance for pollination to occur.

Pollen is carried from flower to flower by insects, notably by bees. This is particularly important when self-sterile varieties are being grown. A high wind interfering with the flight of bees may prevent the transfer of pollen until too late to be effective. In passing it may be mentioned that wind pollination alone is not effective in any of the tree fruits.

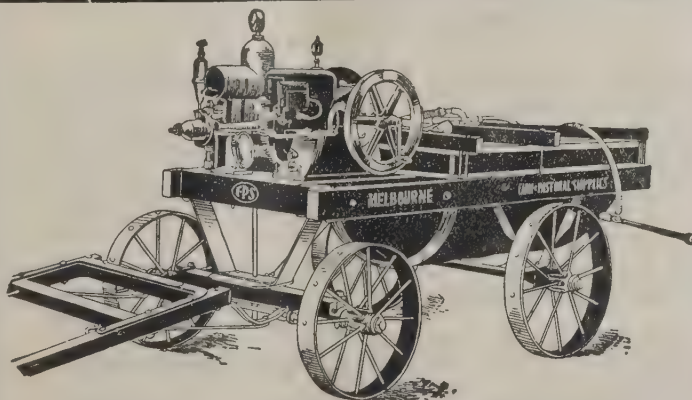
Prolonged cool weather may be just as effective in preventing the flight of the bees. Even if it is just warm enough to allow the bees to work, the low temperature may still cause the blossoms to drop by checking the germination of pollen or growth of the pollen tube. Or, if it is a little colder, frost may occur. The effect of frost is too well known to need comment.

But if the weather is ideal, and the pollen carriers are not present, the result is no better. For this reason many growers are introducing hives of bees into their orchards at blooming time.

These possible hindrances to the set of fruit by no means exhaust the list. There is soil moisture, the lack of which materially reduces the set. There is also the relation of soil nitrogen to fruit setting. The lack of this important element during the period preceding the summer drop, seems especially apt to be associated with the large drop of the tiny fruits.

These factors may serve to show what the tree must overcome in producing a crop and give substance to the misquotation, "The way of the fruitgrower is hard."

THE NEW HERCULES SPRAYER



The Machine that has been adopted by the leading Orchardists of Victoria, and proclaimed by them to be the most efficient and reliable Orchard Sprayer obtainable. Supplied with 1½, 2½ or 3½ h.p. HERCULES Engine, geared direct to Metters' Double-acting Power Pump. Built also on two-wheel transport. Write at once for particulars, or apply for a free demonstration in your own orchard.

THE FARM & PASTORAL SUPPLIES
PTY. LTD.
Machinery Merchants,
500 BOURKE STREET, MELBOURNE

Fruit Trees

Ornamental Trees

One of the Largest stocks in the Commonwealth to select from. All leading lines still available in Apples, Apricots, Plums, Peaches, Quinces, etc.

DAPHNE Plants, splendid lines to offer, 5/- to 7/6 each

Write for Catalogue showing all the various lines of fruit and ornamental trees obtainable

C. A. Nobelius
and Sons Pty. Ltd.
Gembrook Nurseries
EMERALD, VICTORIA

Telephone : Box Hill 154
Telegrams : "Nobelius," Emerald
Melbourne

SEASONED DRESSED HARDWOOD FRUIT CASES.

Interest is being taken in another effort to secure seasoned and partially dressed hardwood shooks suitable for fruit cases for both export and local markets. The Narre Warren Orchardists Pty. Ltd. have made arrangements with a Victorian saw-miller to supply such cases for the 1928 season, which it is believed will meet the requirements for strength and neatness, at approximately the same price as the imported softwood cases. It is stated that the seasoning of the timber enables a guarantee to be given in regard to regularity of measurements, and absence of warp-

ing, twisting, or distortion of shape.

Advantages claimed for the dressed hardwood case are stated as follows:—

(1) It is unusually strong, and the nails are held in the timber so tightly that the slats can hardly be pulled off; (2) the appearance leaves nothing to be desired; (3) the weight is approximately 10lb., or half the weight of a green case. It is also suggested that the use of Australian timber, if made up in attractive cases, would have almost the effect of a distinctive brand on the overseas markets.

Seasoned and partly dressed jarrah cases have been in use in Western Australia for some time, and give complete satisfaction. They are favorably known on the London market,

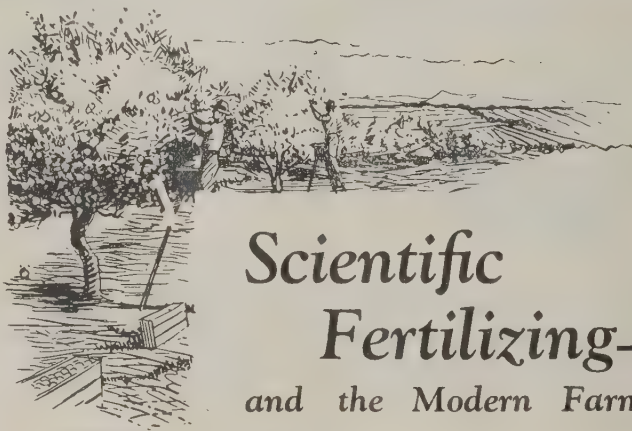
the "red cases," as they are called, being generally sought after.

A FEDERATION OF EMPIRE GROWERS.

Speaking at a luncheon given by the Empire Federation of Chambers of Commerce in London, on June 20, the Secretary of State for the Dominions (Mr. L. C. S. Amery), said that the only effective remedy for economic difficulties lay in the development of inter-Imperial trade, which was capable of infinitely greater expansion than the foreign trade. The Empire wine trade had almost died during the war, but it had recovered to pre-war dimensions, and substantial expansion was likely, particularly in heavy wines. The Empire business communities must get together. "Why should not we have federations of the Empire in growers of fruit, tobacco, dairy producers, and grain growers, in short, an Imperial Farmers' Union, to reassert for agriculture its proper place, thereby applying the only true remedy for a persistent manufacturing crisis."

"Should wives be paid wages?" asks a writer in a recent article in a magazine.

"Certainly," says a married man of our acquaintance. "What do you think I send my wife out to work for?"—"The Prairie Farmer."



Scientific Fertilizing— and the Modern Farmer

That's the title of a booklet which describes the wonderful new highly concentrated Complete Fertilizer which accomplished such astounding results for so many Fruit Growers last season.

Letters from orchardists who used it last year, are coming to hand, not only telling us it is the best Fertilizer they have ever used, but assuring us of all their future business.

VICTOR PLANT FOOD

That's the name of the wonder working Fertilizer which can have so much to do with your future Fruit Growing Success.

There is a free copy of this booklet available for you. Write for your copy to-day. Find out how Science can contribute to Your Success. Learn why, by using Victor Plant Food, you are assured of better, bigger crops—and at the same time, conserve precious time—eliminate wasteful cartage—and save costly, unnecessary labour. Ask for Booklet "F." Better do it now—right away, whilst the thought is before you.

VICTOR PLANT FOOD & GARDENING Co. Pty. Ltd.
136 Dandenong Road, Caulfield
(Works at Dandenong)

-LEMONS-

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vc.

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

"HARVEY'S" One-way Orchard Disc Cultivators

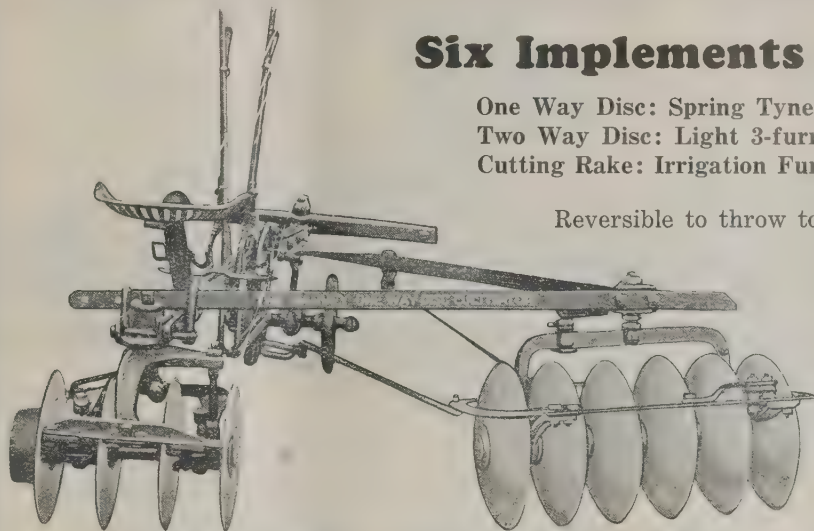
Six Implements in One

One Way Disc: Spring Tyne Cultivator.

Two Way Disc: Light 3-furrow Plow.

Cutting Rake: Irrigation Furrower.

Reversible to throw to or from the Trees.



One Way Disc Extended (Cutting out)

THE "HARVEY" ONE-WAY DISC

is out on its own for Orchard Cultivation. It cuts deeper, and will enter and thoroughly work harder ground than any other disc made.

This fact is borne out by several growers using this machine instead of the Plow. Another great feature is that it will work right up to a large spreading tree, where no other implement can reach, yet the team and driver are clear of the branches. It will throw the soil to the trees or pull it away as you desire, leaving the land free from ridges and gutters, as in the case with other discs. The trees can be worked thoroughly while carrying a full crop of fruit. This machine is also used extensively for running out water furrows, by tilting the gang so that one disc only strikes the ground with a good undercut, and takes out a splendid irrigation furrow.

This Disc will break up hard land where a Plow has refused to work.

Can be regulated to cut any depth or shallow against the tree, and deeper in other parts if required.

We stand behind our implements, and guarantee them to be the best quality.

TO CONVERT INTO SPRING TOOTH CULTIVATOR.

The "Harvey" One-Way Disc may be converted into a Spring-Tooth Cultivator by removing the gang of discs and substituting a Spring-Tooth Cultivating Attachment made for the purpose, which will cut 5ft. wide, and get right to the butts of the trees. By a simple conversion this Spring-Tooth Cultivator may be converted into a Cutting Rake to rake up cuttings after pruning. This is done by slipping the two rows of Tynes into one, and is then a perfect Cutting Rake, which is tilted from the seat like a Hay Rake, gathering the cuttings and tipping them into heaps. This attachment is fitted with a patent device which automatically cleans all rubbish out from the Tynes each time the Cultivator is tilted.

FOR CULTIVATING VERY HARD GROUND AND COUCH GRASS.

We manufacture a special three-disc plowing gang attachment for use with the One-Way Disc Cultivator. By substituting this attachment for the cutting gang, you are able to put the first round of soil on to the trees when plowing. Enables you to cultivate right up to the butts of the trees, will plow very deep into the soil. Will penetrate into very hard ground and couch grass, has proved to cultivate where no other machine could enter the ground. Write for further particulars.

Illustrated Catalogue F will be forwarded on application.

AGENTS ALL STATES.

D. HARVEY, TRACTOR IMPLEMENT MAKER
BOX HILL, Melbourne, Aus.



Illustration shows Fordson pulling a 9-foot Header on Mr. H. Tarrant's farm at Warracknabeal, Vic. One man, using extension control, is taking off 260 acres of a 10 bag crop.

Make this Year's Harvest yield Bigger Profits

Time is the big factor during busy harvest days, when every hour saved means more money to the farmer.

With horse-team work there must be delays for feeding and care of the animals. During harvest, when the weather is hot, the strain on horses is greatest, and it is then they need extra attention. This is the time when the Fordson farmer realises more than ever the value of his investment in economical power.

The Fordson costs less to maintain than a team of horses; saves hours each day on care alone; does a better job, and does it quicker; works night and day, if necessary, without rest, and has a hundred uses round the farm when field-work is slack.

Ask your nearest Ford Dealer to demonstrate Fordson power on your own property. Ask him to show you how the Fordson will make this year's harvest yield you bigger profits. He will gladly demonstrate, without obligation on your part.

Easy Terms arranged under the Ford Time Payment Plan.

Fordson THE UNIVERSAL TRACTOR

£180

Complete with Fenders
and Pulley. F.O.B. Ford
Works in this State.

Ford

ONE TON TRUCK

Complete with Standard
Body, F.O.B. Ford Works
in this State.

£160

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

BRANCHES IN ALL STATES

Fruit Growers and Exporters!

COMPARE THE AVERAGE PRICES

realised for Australian apples at

MANCHESTER

and other British markets respectively last export season; the figures are extracted from official returns published weekly by the British Ministry of Agriculture:—

	Hull. 1st qual.	Manchester. 1st qual.	Hull. 2nd qual.	Manchester. 2nd qual.
Cleopatras (8 weeks)	19/4	19/10	16/11½	17/6
Dunn's Seedling (8 weeks) ..	17/7½	18/9½	16/3½	17/3½
Jonathan (9 weeks)	16/7½	17/10½	15/1½	15/10½
	Liverpool. 1st qual.	Manchester. 1st qual.	Liverpool. 2nd qual.	Manchester. 2nd qual.
Cleopatras (6 weeks)	18/2	19/9	15/4	17/9
Jonathan (6 weeks)	16/-	17/10	14/2	16/4
	London. 1st qual.	Manchester. 1st qual.	London. 2nd qual.	Manchester. 2nd qual.
Cleopatras (8 weeks)	18/3	19/8½	15/9	17/5½
Dunn's Seedlings (8 weeks) ..	16/8½	18/9½	14/10½	17/3½
Jonathan (8 weeks)	16/6	17/10½	13/7½	16/-

The undersigned had administrative control and supervision of

The Manchester Markets and Imported Fruit Sale Rooms

for 15 years, and will be pleased to furnish all particulars regarding the Port and Markets, as also information re Steamship Services, Selling Brokers, Forwarding Charges to interior towns, &c.

Only two steamers carried Australian apples direct to Manchester last season, but large quantities were forwarded from other ports and disposed of each week in the local Sale Rooms—proof that there is a constant demand which should be met by direct shipment, thus avoiding unnecessary transport charges and risk of deterioration and pilferage.

When arranging next season's Export Trade ensure

Maximum Prices and Minimum Distributing Charges — By Direct Shipment to Manchester Docks —

situated 40 miles inland in the heart of the World's most densely populated industrial area, and

The Nearest Port to 12,000,000 Consumers

W. J. WADE

Representative of **The Manchester Ship Canal Co.**
8 Bridge Street, Sydney

Cables and Telegrams—"Portoman," Sydney.

Are You
Interested in
Having Your
Shipments
Arrive in
Good
Condition

?

For Full Particulars Address

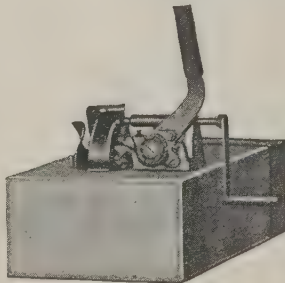
Gerrard Wire Tying Machines Co. Pty. Ltd.

FACTORY & HEAD OFFICE :

119-125 Hawke Street, West Melbourne

also

Reiby Chambers, Reiby Lane, SYDNEY, (N.S.W.)
Cr. Eagle & Charlotte Streets, BRISBANE, (Q'LAND)
Pirie Chambers, Pirie Street, ADELAIDE, (S.A.)
Southern Cross Chambers, Howard Street, PERTH, (W.A.)
Cr. Davey & Murray Street, HOBART, (TAS.)
68-70 Taranaki Street, WELLINGTON, (N.Z.)



Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1885



Tel. Addr.:
"Timmkorn
Hamburg"

★
Special
Catalogues
showing
prices
issued
after
each sale

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired
BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

Fruit Trees

Ornamental Trees

One of the Largest
stocks in the Com-
monwealth to select
from. All leading
lines still available
in Apples, Apricots,
Plums, Peaches,
Quinces, etc.

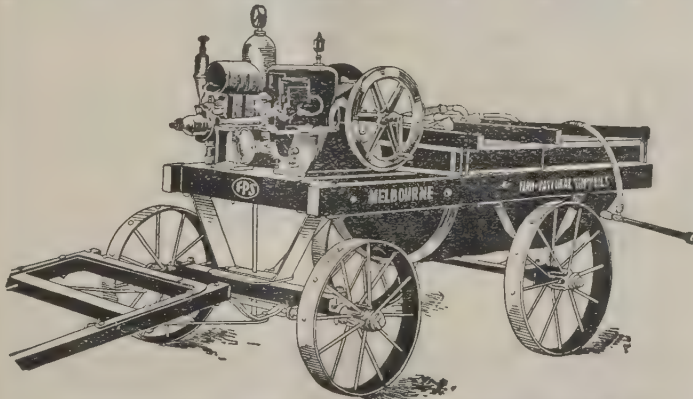
DAPHNE Plants,
splendid lines to
offer, 5/- to 7/6 each

Write for Catalogue
showing all the
various lines of fruit
and ornamental
trees obtainable

C. A. Nobelius
and Sons Pty. Ltd.
Gembrook Nurseries
EMERALD, VICTORIA

Telephone : Box Hill 154
Telegrams : "Nobelius," Emerald
Melbourne

THE NEW HERCULES SPRAYER



The Machine that has been adopted by the leading Orchardists of Victoria, and proclaimed by them to be the most efficient and reliable Orchard Sprayer obtainable.
Supplied with 1½, 2½ or 3½ b.h.p. HERCULES Engine, geared direct to Metters' Double-acting Power Pump. Built also on two-wheel transport.
Write at once for particulars, or apply for a free demonstration in your own orchard.

THE FARM & PASTORAL SUPPLIES
PTY. LTD.
Machinery Merchants,
500 BOURKE STREET, MELBOURNE

The Ultimate cost is the one to watch!

Cooper "Perfect Balance" Sprayers are noted for remarkable economy

READ THIS EVIDENCE

Somersby, via Gosford,
N.S.W.

"I have had my Cooper Spray Plant for some considerable time, and it has been in pretty constant use, not only spraying acres and acres of orchard, but washing down vehicles as well.

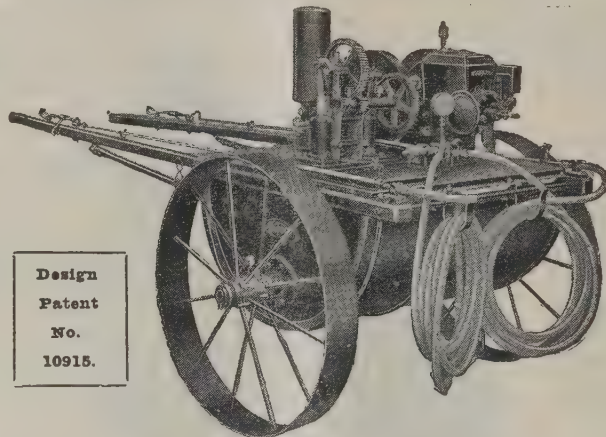
Without a doubt it is very economical—a good long day's work to the gallon of benzine being my experience with it. Any man of commonsense can keep engine and pump running well."

(Sgd.) S. G. SPENCER.

11/6/26.

In the long run
the Sprayer that pays best is the

Cooper



Design
Patent
No.
10915.

WRITE TO
Cooper Engineering Co. Ltd.
129-131 SUSSEX STREET, SYDNEY or
350-358 SPENCER ST., MELBOURNE
Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne

AUSTRALIAN HOUSE

of

Anderson - Barngrover Mfg. Co., U.S.A.

Suppliers of
Everything Required in the Cannery

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented)

Atomol Dusts Ltd.

Manufacturers of
DUSTING MATERIALS used as **INSECTICIDES & FUNGICIDES**
ON PLANT LIFE

DUMPHRIES PLACE
off GILLES STREET
ADELAIDE

Growers would be well advised to allot part of their orchards this coming season for the purpose of making a comparison between dusting and spraying. Providing that the correct dust and dusting mechanical appliances are used, we are convinced that dusting will be generally adopted for controlling all insect and fungi pests.

Atomol dusting material and Root mechanical dusting appliances combine all the essential features of successful dusting. One man with a Root Hand Dust Gun, costing only a few pounds, will cover as much ground as a power spraying machine costing £100 or over in a given time.

SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED INTERSTATE AGENTS:—

VICTORIA:—

Irymple Packing Co., Irymple.
Irymple Packing Co., Merbein.
Sarnia Packing Co., Mildura.

Humphreys & Conran, Red
Cliffs.

Mr. G. W. Hall, Box 1, Bunyip.

QUEENSLAND:—

Orchard Supply Agency, Mary-
land St., Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington St., Perth.

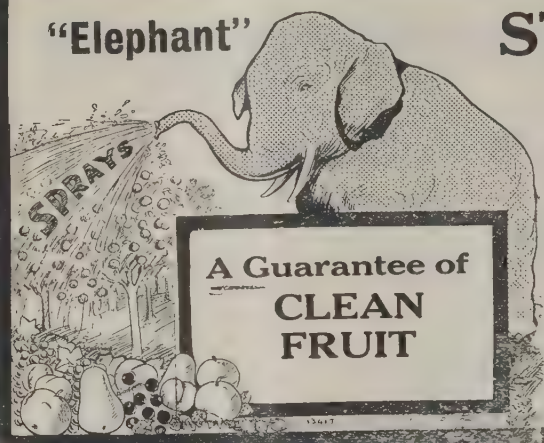
TASMANIA:—

Charles Davis Ltd., 60 Eliza-
beth St., Hobart.

NEW ZEALAND:—

Harold Lightband Ltd.,
79a Lichfield St., Christ-
church.

**THE ROOT HAND DUST GUN IS AN IDEAL MACHINE FOR THE APPLICATION OF CALCIUM CYANIDE OR
CYANGAS.**



STILL ON TOP!! ORCHARDISTS

Spraying is essential and your best Insurance—Therefore it is necessary to use only the Best Sprays obtainable.

The successful grower uses
"Elephant" Brand Sprays

ONLY

Now is the time to spray your Fruit Trees with Oil

Use "Elephant" Brand Prepared Red Oil Prepared Crude Oil FOR BEST RESULTS

Also Order Now

Bordeaux Mixture Powder

Lime Sulphur

Bluestone Arsenate of Lead (Paste and Powder)

WRITE FOR PRICES AND PAMPHLET

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

INTERSTATE AGENTS:

Agents: Seedsmen, &c.

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	MORGAN & WILMINGTON Turbot Fruit Exchange BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR OCTOBER

Illustrations.	
Apple Growing in the Wenatchee Valley, U.S.A. . .	409
Black Achan Pear Tree at Portland, Vic.	410
Growers' Market at Tacoma, Wash., U.S.A. .	417
Teviotdale Orchard, Tongala	429
Subjects.	
Apple Growing in America	408
Apple Trees and "Hairy Root" Investigation . .	423
Australian Apples in Germany	433
Banana Bunchy Top . . .	412-413
Beekeeping Notes	xv
Canning Fruits: Brown Rot of Peaches; Price of Canning Fruits in U.S.A.	416
Citrus: Fundamental Principles of Citrus Growing; New Grades in N.S.W. .	420-421
Dried Fruits: Grubs in Dried Fruits; N.S.W. Dried Fruits Act; Imports of American Prunes; Dried Fruits Legislation; How to Care for Frosted Grape Vines	424-426
Dried Fruit Sales	433
Duty on Synthetic Fertilisers	437
Editorial Jottings from U.S.A.	407
European and American Crop Prospects	415
Fresh Fruit Overseas Marketing Scheme Rejected .	408
Insect Pests in the Orchard	435
Late Frosts Damage Vines	408
Markets—British and Australasian	432-433
New South Wales: Fruit-growers' Conference; New Apple and Pear Grades; Crop Prospects.	430-431
New Zealand: Bud Selection Work; Fruit Exports; New Plantings	418-419
Parasite for the Codlin Moth	429
Poultry Notes	439
Queensland: Seasonal Notes; Marketing Conditions; Current News .	414-415
South Australia: Fruit-growers' Conference; Orchard Notes	410
Seasonable Hints on Fruit-growing	411
Subscribers' Payments . .	417
Tasmania: Seasonal Notes; Orchard Operations . .	422-423
Victoria: Seasonal Reports and Prospects	434-435
Western Australia: Viticultural Industry; Orchard Notes; Fruit Shipments	427
Woolly Aphis Parasite . .	428

INDEX TO ADVERTISERS

Books, Publications—	
"Garden Lover," Bank House, Bank Place, Melbourne, p. xxi.	
"Fruitgrowers and Gardeners' Pest Control Chart," Fruit World Pty. Ltd., Bank Place, Melbourne, cover ii.	
Budding Knives.	
L. P. Rosen & Son, Epping, N.S.W., p. xx.	
Canning Machines—	
Austral Otis Andebar Cannery Equipment Pty. Ltd., Hanna St., South Melbourne, p. 403.	
Heine, John and Son Ltd., Sydney, N.S.W., p. xxiv.	
Cold Storage—	
Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii.	
Dehydration—	
"Simplex," Clyde Engineering Co. Ltd., Granville, N.S.W., p. xvi.	
Dusting Machines—	
Atomol Dusts Ltd., Dumphries Place, Adelaide, p. 403.	
Fruit Buyers—	
Brooke, C. M., & Sons, Whiteman St., South Melbourne, p. xvi.	
Fruit Tree Suppliers—	
Brunning, John, and Sons, Somerville, p. 406.	
C. A. Nobelius & Sons, Emerald, Vic., p. 401.	
Pleinc Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii.	
Two Pavs Nurseries, Moorooduc, Vic., p. 402.	
Fruit Graders—	
"Lightning," Lightning Fruit Grader Co., 5 Hoddle St., Collingwood (Vic.), p. 440.	
Irrigation Machinery—	
Pope's Sprinkler and Irrigation Co., Robert St., Croydon Park, S.A., p. xv.	
Manures, Fertilisers, &c.—	
Di-Ammon-Phos, Orchard Fertiliser, Dyes and Chemicals Ltd., 573-585 Lonsdale St., Melbourne, p. xix.	
French Potash, Sulphate and Muriate, Dalgety & Co., Bourke St., Melbourne, p. vi.	
Sulphate of Ammonia, Australian Sulphate of Ammonia Propaganda Committee, 360 Collins St., Melbourne, p. xvii.	
Motor Cars and Trucks—	
Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii.	
Orchard Ploughs, Cultivators, &c.—	
D. Harvey, Box Hill, Melbourne, p. xi.	
Orchard Requisites.	
McPherson's Pty. Ltd., 582 Collins St., Melbourne (Vic.), p. 437.	
Patent Attorney—	
Geo A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne, p. 423.	
Poultry—	
Karswood Poultry Spice, Agents all States, p. 438.	
Refrigerating Machinery—	
Werner, R., & Co. Pty. Ltd., Richmond, Vic., cover iii.	

Spray and Dusting Material—

"Arsinette," Wm. Cooper & Nephews Ltd., 4 O'Connell St., Sydney, p. x.
"Blue Bell" Arsenate of Lead, 31 Queen St., Melbourne, Vic., p. iii.
"Carlton" Arsenate of Lead, Walter Voss & Co., Millwall, London, E.14, p. xviii.
"Electro" Arsenate of Lead, Agents all States, p. xxv.
"Elephant" Brand, Jaques Pty. Ltd., Madden Grove, Burnley, Vic., p. 404.
"Swift's" Arsenate of Lead, H. W. Peabody & Co., Sydney and Melbourne, p. viii.
Dusting Powders, Atomol Dusts Ltd., Dumphries Place, Adelaide, p. 403.
"Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.
"Black Leaf 40," Producers' Distributing Soc. Ltd., Melbourne, p. iv.
Berger's Arsenate of Lead, Neptune Oil Co. Ltd., River St., Richmond Vic., p. xxii.
Schloesing's Ready-made Bordeaux, Lawford's Fruit Exchange, Doncaster, Vic., p. 435.
"Sulcar" Carbonised Sulphur Spraying Mixture, Sinclair & Co., Box 3, King St., P.O., Sydney, p. 419.
"Yarra" Fruit Sprays, Parsons & Jaques, 6 Patterson St., Abbotsford, Vic., p. 425.

Spray Pumps and Guns—

Alumino-Thermic and Metal Sprayers Ltd., 247 George St., Sydney, N.S.W., p. iv.
"Bave-U" Power Sprayer, Russell & Co., Box Hill, p. xx.
"Bave-U" Power Sprayers, N.S.W. Agent, E. Robinson, 333 George St., Sydney, p. 431.
"Cooper," Cooper Engineering Co. Ltd., 129 Sussex St., Sydney and 350 Spencer St., Melbourne, p. 402.
"New Hercules" Sprayer, Farm and Pastoral Supplies Pty. Ltd., 500 Bourke St., Melbourne, p. 401.
"Rosebery" Spray Pump, A. H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xix.
Spray Pumps, etc., Cooper Pegler & Co. Ltd., 24d, Christopher St., London, E.C.2, p. 428.
Ronaldson-Tippett Spraying Plant, Ronaldson Bros. & Tippett Pty. Ltd., Ballarat, p. 436.

Strapping Fruit Cases—

Gerrard Wire Tying Machines Co. Pty. Ltd., 119-125 Hawke St., West Melbourne, p. xiv.
"Griplock," Wire Strapping, Jas. Henty & Co., 499 Lit. Collins St., Melbourne, p. ix.

Stencilling Inks—

Caldwell's Pty. Ltd., Yarra Bank Rd., South Melbourne, p. 427.
--

Transport—

London and N. E. Railway, Burns, Philp & Co., agents, p. xxii.
Port of Manchester, rep. W. J. Wade, 8 Bridge Street, Sydney, p. xiii.

Tree and Stamp Pullers—

Trehwella Bros., Trentham, Victoria. Stumping Jacks, etc., p. ix.
"Digger," Quick Manufacturing Co., 76 Pender St., Thornbury, p. xx.

Remember !

You Want Fruit Trees —We Have Them—

And the Means of Supplying Them to You

OUR STOCK is one of the **largest** in Australasia, and this season particularly perhaps the **BEST**, as no expense has been spared, despite the dry season, to bring the trees to the present high stage of maturity.

—WRITE US AS TO YOUR REQUIREMENTS AND CATALOGUES—

JOHN BRUNNING & SONS

SOMERVILLE, NURSERIES

Somerville, Victoria, Australia

Established 1866

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States.

Changes of copy for advertisements must be in our hands on or before the 12th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

HEAD OFFICE:

**Bank House, Bank Place,
Melbourne, Victoria**

Representatives in all States and New Zealand.

British Office: Harvey, H. Mason, 1 Mitre Court, Fleet Street, London, E.C.

American Office: S. D. McFadden, Pacific Bldgs., Market Street, San Francisco, Cal., U.S.A.

R. E. BOARDMAN, A.F.I.A., A.A.I.S., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

PERSONAL.

Mr. A. E. Williams, who has been Secretary of the Melbourne and Suburban Retail Fruiterers' Association for more than 20 years, was entertained at dinner at the Cafe Francais on September 8, by members of the Association. Regret was expressed that the Association is to lose the services of Mr. Williams, who is relinquishing his duties at the end of September. Mr. E. W. Thompson, who has been Treasurer for many years, has been appointed his successor. A presentation was made to Mr. Williams, who also received a gift for Mrs. Williams.

Professor A. E. V. Richardson, Director of the Waite Research Institute (South Australia), has left for England to attend the Imperial Conference for the co-ordination of Agricultural Research, as a representative of the Commonwealth. Professor Richardson is a member of the Executive of the Council for Scientific and Industrial Research, and will devote particular attention to negotiations for the co-operation of the Empire Marketing Board with this Council in research work.

Legume crops return two dividends—a crop, and soil enrichment.

Editorial Chats



JOTTINGS FROM U.S.A.

Citrus Exports: Canning Factory Improvements.

(By our Editor Abroad, R. E. Boardman, A.F.I.A.)

Portland, Oregon, U.S.A.,
July 25, 1927.

AS I AM TRAVELLING about so much in this fertile and progressive country, I thought it might be of interest to send jottings from time to time.

Recently I was in Los Angeles—the wonder city of California. It was a pleasure to meet Mr. Teague, President of the California Fruitgrowers' Exchange; Mr. Dezell, the Manager; Mr. Paul Armstrong, Assistant Manager; Mr. Dana King, of the Orange Sales Department; Mr. Simmonds, of the Advertising Department; and others. All connected with this splendid organisation showed me the utmost courtesy, and all were keenly interested to hear of doings in Australia.

With Mr. King I went to the harbor and saw a ship loading 30,000 cases of Late Valencia Oranges for London, the route being via the Panama Canal. I will send more details later; the voyage takes 30 days to London, 40 days to some Continental ports; and I can only express the opinion that, judging by what is being done here, it should not be impossible for Australia to send Citrus safely to England in bulk quantities.

At Redlands, in company with Mr. Miller, of the Los Angeles Chamber of Commerce, and Mr. Ryan, County Horticultural Commissioner, I called at the office of the Mutual Orange Distributors, and met Mr. Early, the Manager, and Mr. McDaniell. This organisation is now handling considerable quantities of Citrus for home and foreign markets.

There are many details which I will give at the earliest opportunity. The visits to the Citrus Packing Houses were full of interest.

Returning to San Francisco by the coast route, we passed through Santa Barbara, which recently suffered an earthquake. Nearby we saw oil wells in the ocean bed. At Lompoc and Guadalupe I saw the extensive seed farms of John Bodger & Sons, David Burpee, and the Waller Franklin Seed Co. There were thousands of acres of flowers, and all for seed—truly a beautiful sight. Great success has followed the scientific efforts of these seed growers in the matter of seed selection, varietal purity and improvement; these are the principles so ably demonstrated by Mr. A. D. Shamel, the eminent plant

physiologist of the U.S. Department of Agriculture—a man who has uplifted the fruit industries of California and Hawaii through bud selection.

On June 28 I visited San Jose in company with Mr. A. G. Caldwell, Sales Manager of the Anderson-Barngrover Co., canning machinery manufacturers. Mr. Caldwell was in Australia recently, and appreciates the work of the Australian fruit canners.

It was of great interest to see over the works of the Anderson-Barngrover Co. The firm makes canning machinery for California and the other American States, as well as Hawaii, England, South Africa, South America, Australia, New Zealand, and other places.

A new Peach pitting machine has just been perfected, which should greatly reduce factory costs.

England is now buying canning machinery for putting up her new pack of berries and Plums.

We then went to the United States Products Co., a modern six-line canning factory running at the time of our visit on Royal Anne Cherries. Apricots, Pears, and Peaches were to follow in due course. Here we saw the 8 oz. tins of Cherries being canned—a popular line.

The California Packing Corporation is a huge concern. At San Jose we saw one plant which alone puts up a million cases (24 cans per case) every season.

In addition to the co-operative association which I have previously mentioned, it has been my pleasure and privilege to meet the officers and see into the work of the Sun Maid Raisin Growers' Association, the Peach and Fig Growers' Association, the California Pear Growers' Association, the Almond Growers' Association, the California Fruit Exchange (deciduous), the Canning Peach Growers' Association, the Berry Growers' Association, the Hood River Apple Growers' Association, and others.

At Sacramento I met Mr. Hecke, the Director of Agriculture, and his capable staff.

These memos. are jottings sent forward as a matter of interest; details will be published shortly. I have been privileged to obtain much information which will be very helpful indeed to Australia.

I can only express sincere gratitude for the readiness with which information has been made available. On every side intimate details have been furnished—there is a fine spirit of comradeship in America. The people seem to say—and they do say—"If we have anything of value you are welcome to it."

I met Mr. Raymond Black, a fruitgrower of Tally Ho, Victoria. I was with him in Los Angeles, and again at Hood River, Oregon. Mr. Ranger, Manager of the Committee of Direction of Fruit Marketing, Brisbane, arrived in Los Angeles after I left. I was in touch with him by letter and telegram, and I would have delayed

(Continued on Page 437)

Apple Growing in America

The Wenatchee Valley.

Production up to 1,000 Bushels per Acre.

(By R. E. Boardman.)

Wenatchee (Wash.), U.S.A., 3/8/27.

IT WAS a great pleasure to visit the charming Wenatchee district. Here the acreage is about 35,000 acres, mainly Apples, though Pears, Cherries, and Apricots are also grown.

After meeting Mr. Erle Barnes, Director of Agriculture for the State of Washington, he courteously suggested that as Mr. Griner, Horticultural Superintendent, was driving over to Wenatchee, I might accompany him. It was a pleasure to do so, for on the way, Mr. Griner gave me many interesting sidelights on the organization of the Agricultural Department and the operations of the several co-operative and other organizations among the growers.

Cool Storage.

At Wenatchee I met Mr. Fisher, U.S. Plant Pathologist (who knew of my coming through reading the "Fruit World"), and Mr. Diehl, U.S. Plant Physiologist, both of whom are doing excellent research work to benefit the growers. Mr. Fisher was closely connected with the work which resulted in the discovery of the value of oiled wrappers for keeping apples in cold storage.

Mr. Diehl has demonstrated the necessity for getting apples into cold storage as soon as possible after they are picked. A delay of a week in placing the fruit in cold storage means cutting off from six weeks to two months of their possible storage life. Mr. Diehl kindly introduced me to the various co-operative and other organizations working on behalf of the growers.

1,000 Bushels per Acre.

Then Mr. Luce, Horticultural expert of the State Agricultural College, who is doing valuable work among the growers in their cultural problems, spraying, pruning, etc., showed me over the delightful Wenatchee Valley—a district situated near the confluence of the Wenatchee River and the Columbia River. This district produces about 14,000,000 bushels of apples annually. All the orchards are irrigated. A good average crop is 800 bushels per acre, but growers aim to produce 1,000 bushels per acre. Some growers are doing this now. The principal apple varieties are Winesap, Delicious, Jonathan, Grime's Golden, Rome Beauty. The Red Delicious is coming into favor.

Organization.

The Co-operative Associations in-

clude the Wenatchee-Okanagan District Growers Association (termed the Wenoka Association). The Wenatchee Co-operative Association, the Skookum Packers Association, and the North-western Fruit Exchange. There are private operators and buyers here also.

The co-operatives are built on the lines of (a) individual districts having local autonomy. The growers in defined districts link up with their local unit.

(b) These units combine into a co-operative Association to sell the products, purchase supplies in bulk, and to advertise.

Each co-operative has its own group of local units, and the growers have their choice as to which group they desire to enter. While these co-operatives are in competition, they each have some special feature which is of service. Then in regard to district matters they act in union. There is a Traffic Association through which all the district shippers organise the supply of railway cars.

I shall be glad to tell the story in detail of the way these organizations are constructed, of their service to the growers. The managers kindly gave copies of their rules and of the several agreements.

On one point all are agreed, that such improvements as are possible will come only by education, mutual understanding, and the practical working out of their problems, and that nothing in the way of compulsion or legislation is even contemplated. Voluntary co-operation, they say, is the system on which the present success has been built, and which offers all the prospects for the future.

Spray Residue.

Growers in this area have come to realize that they must get rid of the spray residue. Some are inclined to think it is a passing fad, but whatever their opinions on this subject may be, they recognize that the regulations requiring the removal of the spray residue are imperative.

The action of the British authorities in refusing to accept apples containing more than one-hundredth part of a grain of arsenic per lb. of fruit has been supplemented by the action of the U.S. authorities, who are convinced that this is a health regulation of importance in the States also. For this season a tolerance of .025 spray residue will be permitted in the

United States, but for the 1928 season the world tolerance of .01 will be generally enforced.

Growers and their Associations are therefore installing washing machines. In cooler places where the spray programme is not so heavy the spray residue can be removed by automatic brushing machines.

SCIENTIFIC RESEARCH.

Mr. G. B. Tindale to go Abroad.

Fruitgrowers will learn with interest that the trustees of the Science and Industry Endowment Fund have appointed Mr. G. B. Tindale, B.Sc., who has been for some time on the field staff of the Department of Agriculture, to specialise in fruit storage work. It is expected that he will be attached to the East Malling (Kent) station, at which the British Food Investigation Board is conducting extensive researches, including work with a model ship's hold. In addition, Mr. Tindale will study the recent work at East Malling on the vegetative propagation of root stocks, a matter of considerable importance to the fruit industry in Australia.

Another student who has been awarded a research studentship by the Council is Miss Phyllis Jarrett, B.Sc., of Kyneton, demonstrator in botany at the Melbourne University.

Miss Jarrett will undertake post-graduate work in plant pathology, probably at Rothamsted, England.

LATE FROSTS DAMAGE VINES.

Reports have been received by the Victorian Horticultural Division that severe frosts which occurred on September 24, caused considerable damage to vineyards along the Murray Valley, particularly around Mildura, Swan Hill, Woorinen, and Nyah. Sultanas are said to have suffered most severely, and it is feared the crops will be considerably reduced. The Government Viticulturist (Mr. F. de Castella), who has gone to Mildura to investigate the damage, suggests that by disbudding, new growths may be induced which will give moderate yields of fruit. The sultana, however, does not respond to this treatment as do other varieties.

Storms of wind and hail were experienced in other fruitgrowing areas, and frosts destroyed Tomato crops and caused damage to Apricots and Figs.

GROWERS REJECT OVERSEAS FRUIT MARKETING SCHEME.

The Government proposal to establish a Fresh Fruit Overseas Marketing Board was defeated at the growers' poll by a majority of 299 out of 1,629 effective votes.

A VALUED BIOLOGIST.

Mr. C. C. Brittlebank.

THE IMPENDING RETIREMENT of Mr. C. C. Brittlebank, the world-known Biologist and Plant Pathologist of the Victorian Department of Agriculture, will be viewed with very great regret by fruitgrowers all over the Commonwealth. For 19 years Mr. Brittlebank has been associated with the Department of Agriculture in research and experimental work, chiefly in fungus diseases, and it is safe to say that his results have benefited fruit and other plant growers to the extent of many thousands of pounds.

Prior to his entering official life, Mr. Brittlebank was a practical farmer. Interested in Nature and in scientific natural history, he became unofficially associated with Mr. C. French, sen., and Mr. D. McAlpine in their work. His beautiful and accurate water-colour drawings in the many works of those gentlemen testify to his ability, accuracy, and skill, as well as to his knowledge.

In 1908 Mr. Brittlebank was appointed as assistant plant pathologist to Mr. D. McAlpine. When that gentleman took up his Bitter Pit work Mr. Brittlebank became Plant Pathologist in his place. Subsequently, in recent years, he was appointed Biologist in charge of the Science Branch. This work has many phases of usefulness, and in them all Mr. Brittlebank's practical skill has been quite evident. His work in Black Spot of apple and Leaf Curl of peach has made possible more successful treatment of those pests; his researches into tomato and potato diseases are well known; his discovery of the transit rot in pears and peaches, and its successful control, has placed many pounds into the pockets of the Goulburn Valley growers.

By his great ability and genial forcefulness, Mr. Brittlebank is an outstanding figure in departmental life, and his retirement will be one of the biggest losses that growers will have had for very many years. His place will indeed be very hard to fill.

Officially, Mr. Brittlebank will retire on January 1 next, but with annual and retirement leave, he will actually cease duty about the middle of November.

At the annual meeting of the Nurserymen and Seedsmen's Association it was decided to ask that Mr. Brittlebank's services be retained for a further period. Fruitgrowers should support this request.

N.S.W. HORTICULTURAL SUPER-INTENDENT.

Mr. C. G. Savage Appointed.

The appointment of a successor to Mr. W. J. Allen in the new position of Horticultural Superintendent in New South Wales, was announced at the end of August. The choice has fallen on Mr. C. G. Savage, R.D.A., Deputy Horticultural Instructor and Manager, Government Experimental Orchard, Berri, South Australia.

Mr. Savage, who is 40 years of age, received his training at the Roseworthy Agricultural College, S.A.,

appointment of Deputy Horticultural Instructor added in 1922.

Mr. Savage has had wide and valuable experience of all branches of fruitgrowing, and the news of his appointment has been received with general satisfaction.

EXPORT SUGAR REBATE.

The Export Sugar Committee (representing the Commonwealth Government, the sugar industry, and the manufacturers respectively), has fixed the export sugar rebates as from September 1, 1927, at £11/15/- a ton on fruit products, and £18 per



Apple Growing in the Wenatchee Valley, Wash., U.S.A.

Top: Apple trees in bloom. Some of these trees produce 30 bus. of fruit. Bottom: View of a section of the famous Wenatchee Valley. (See article on opposite page.).

(Photo. by Wheeler, Wenatchee.)

and after experience of orchard and vineyard work, was appointed Manager of an experimental orchard at Adelaide, and later at Coromandel Valley. In 1917 Mr. Savage was given control of the Berri Experimental Orchard, with the additional

ton on all other goods.

The lower rate on fruit products is due to the fact that sugar is supplied to manufacturers of such products for home consumption at £6/5/1 a ton less than to other manufacturers.

South Australia

Fruitgrowers' Annual Conference . . . Orchard Notes.

S.A. FRUITGROWERS' AND MARKET GARDENERS' ASSOCIATION. Annual Conference.

The annual conference of the Fruitgrowers and Market Gardeners' Association was held at the New Market office, Adelaide, on September 9, when the President (Mr. J. Turner) occupied the chair. There was a large attendance.

Mr. E. H. Hannaford, M.P., in declaring the conference open, said he represented a district which was largely composed of growers. The fruitgrowing industry had not always received the attention it should from the leaders of the State. The Association had accomplished a good deal during the past year, but their work was by no means finished. There was no doubt that the Association had more than justified its existence. The fruit and vegetable growers were among the hardest workers in the State, but there was much difference between the trade of 35 years ago and that of the present day. The Government had introduced a Bill to minimise the rough handling of fruit in transit; and suggestions they might make would be welcomed by him, and he would undertake to have them inserted in the measure. He had great faith in the future of the fruit industry. He urged greater care in growing and grading, and recommended them to always remember and take as their slogan, "Nothing but the best will do." (Applause.)

Mr. J. Donaldson asked whether Mr. Hannaford would endeavor to bring about a settlement of the fruit pool.

Mr. Hannaford said he had already interviewed the Minister of Agriculture on the subject, and the latter had promised to do all he could to bring the matter to a successful termination. He had hoped the result would have been in time for the conference, but as it was not, he would see the Minister again with the object of achieving an early finality.

Mr. Hannaford was thanked for his interest.

The President (Mr. J. Turner) dealt at length with the annual report, and said he was delighted to find that last year's debit balance had this year been turned into a small credit balance. He spoke in high terms of the work of the Secretary (Mr. W. J. Kimber) in the interests of the Association.

The report and balance sheet were adopted.

Officers elected:—President, Mr. L. J. Wicks; Vice-President, Mr. W. H. Ind; Executive, Messrs. J. Turner, A. O. Pike, R. Hunter, J. Donaldson, A. O. Peterson, F. C. Staniford, J. B. Randell, G. W. Summers, H. B. Robison, and R. E. Townsend; Secretary, Mr. W. J. Kimber.

It was resolved—"That the subscription be raised to one pound," "That where Branches exist two shillings and six-pence per member may be retained for working expenses and the balance of seventeen shillings and sixpence be forwarded to the General Secretary of the Association, and that the Executive be given power to deal with the country branches with reference to annual subscription."

It was decided that the Fruit Pool Board be registered and the members re-elected.

ORCHARD NOTES FOR SOUTHERN DISTRICTS.

September and October are busy months for the orchardist. Ploughing should be completed, and the soil well harrowed. If heavy rain falls, it will be necessary to use the cultivator to loosen the soil again, as it should be in good tilth before the hot weather sets in.

Pruning will have been finished, but it will be well to go through the trees and see that all the big cuts have been trimmed off and the surfaces treated with thick paint or Bordeaux paste; this treatment will prevent damage by weather, and will also help to stay the spread of woolly aphis and other pests. At the same time, see that loose bark and any hollows are cleared up, so as to leave no shelters for codlin larvae, etc.

The earlier fruits need watching for aphis, especially Peaches and Cherries. Tobacco mixtures are the standard remedy, but "Pyridene" is worthy of a trial. Dust can be used even if the soil will not carry a spray outfit.

Curl leaf may be prevented by the use of copper mixtures if taken in time, but it cannot be cured if it is allowed to get a hold. The same mixture is used to prevent shothole or scab on the Apricot, and black spot or scab on Apples and Pears.

For codlin moth, be prepared by using arsenate of lead as soon as the petals fall, before the calyx closes,

and repeat the work about 10 days later; a spreader is useful in water sprays. Other work should not interfere with the programme of spraying.

Newly planted trees and vines should be watched for cut-worm, which work at night and cause serious damage if neglected; arsenate of lead is the remedy.

Oidium may attack the new shoots of vines unless they are protected; use fine sulphur.

Order cases in good time and have them on hand.—"Journal of Agriculture," S.A.



Black Achan Pear, 60 years old, in Mr. W. Lister's orchard, Bolwarra, near Portland, Vic., carrying 60 bus. cases when photographed (season 1925), but has borne up to 80 bus. cases in a season. Ladder shown is 20ft. high. Red forest ground.

NEW MIGRANTS.

In furtherance of its policy of assisting migration to Australia, the Salvation Army has chartered the s.s. "Vedic," of the White Star Line, to sail from Liverpool on October 15, carrying migrants to all parts of the Commonwealth. The migrants will include boys and men for farm work, and domestics, both with and without experience.

During the last six years the Army has introduced some 6,000 new settlers into Australia. Applications for men, domestics, youths and married couples are now being received at the Army's Migration Centre, and communications should be addressed to Staff-Captain Munro, 123 Exhibition-street, Melbourne.

HARDWOOD FRUIT CASES.

The possibility of using seasoned hardwood fruit cases was discussed on September 21 by growers and sawmillers. Full report later.

Seasonable Hints on Fruitgrowing

(By J. M. Ward, Superintendent of Horticulture, Victoria.)

It is pleasing to be able to state that the present prospects for good crops of deciduous fruits are particularly bright. The chief concern of the orchardist at this period is for his trees to set fruit, and once having done this he is hopeful that the fruit will remain fairly free from disease.

There are three things essential for a good setting of fruit; these are—a plentiful supply of plant-food, good weather conditions during blossoming, and freedom from thrips. The first-named can be controlled by the orchardist; weather conditions are beyond control, and unfortunately at the present juncture one can almost say the same of thrips.

Plant Foods.—Potash should be given in the form of sulphate or muriate of potash at the rate of 1cwt. to 1½cwt. per acre. It is not too late for apple growers to give a dressing of potash for the coming season's crop. Phosphoric acid can be applied in the form of superphosphate or bonedust, say 6 to 8 cwt. per acre.

To apply nitrogen in a commercial form, such as nitrate of soda, sulphate of ammonia, or dried blood, is expensive in many ways; therefore nitrogen should be applied to the soil by way of growing and ploughing under of green crops, particularly Peas, Beans, and Vetches. Either of these mixed with, say, barley or oats will give volume for humus, as well as nitrogen. Growers should accept as a motto, "A green crop in my soil every year."

Transit Rot.—My friends in the Goulburn Valley have, in past years, had heavy losses of Pears, Peaches and Apricots through the ravages of a fungus known as *Rhizopus nigricans*, but commonly called "Transit Rot." That is, the fruit rots in transit.

There is one thing I want to stress, and that is clean, and keep clean, all containers of fruit, also packing benches, and everything that fruit comes in contact with. I understand that at least one cannery in the Valley intends to establish a steam plant for the purpose of disinfecting all used cases that leave the cannery. Other canneries should follow the lead to be given by the Shepparton Cannery; but, to be effective, the growers must take a hand and complete the job by sterilizing their picking bags, waggons, etc.

It is a simple matter to dip the picking bags or buckets into the copper of boiling water every washing day during the fruit season. Packing benches, waggons, and the interior of packing sheds should be thoroughly

sprayed with bluestone solution—2lb. bluestone to 40 gallons of water. The fruit is rarely affected with transit rot before picking, therefore this parasitic fungus can easily be controlled by growers adopting hygienic methods, and, remember, it will pay you to do it.

Brown Rot is another troublesome disease that Goulburn Valley and Doncaster growers have to contend with. This fungus is more or less disastrous once it makes its appearance in a stone fruit orchard during a humid season. All diseased fruit and wood should be carefully gathered and burnt—not buried. If allowed to remain in or on the ground beneath the tree, they become a breeding ground.

Trees attacked by Brown Rot should receive a thorough spraying of lime-sulphur at 1-9 strength just before the buds burst. This should be followed with another application after the fruit sets, with the same mixture, at 1-30. Bordeaux mixture at 6-4-40 for the first spray, may be used instead of lime-sulphur, if the grower so desires.

Black Spot.—Now, a word to the Apple and Pear growers, more particularly the Apple people in the south. Owing to the short crop during the last season, the present indications point to a forthcoming heavy crop in all the States. Should this result, there will be keen competition, and those having the best fruit should receive the higher prices.

Having gone through a comparatively dry winter, the Spring and early Summer months may be rainy ones, in which case Black Spot (*Venturia inaequalis*) of the Apple, and *Venturia prinia* of the Pear, will be prevalent, and many Apples and Pears will be of little commercial value. This should be guarded against by adopting control measures.

From experiments carried out at various times in Victoria during the past few years—more particularly in Gippsland—everything points to orchardists being able to control Black Spot by thoroughly spraying the trees with lime-sulphur, at a strength of one gallon of lime-sulphur to 15 gallons of water when from 70 to 80 per cent. of the blossoms are fully out, followed by a second application, at a strength of 1-30, just after the petals have fallen. Before growers in districts other than Gippsland use lime-sulphur at the strength and periods mentioned, on the whole of the orchard, they are advised to first experiment on one tree, for burning may occur.

Experience in some parts of Victoria and Tasmania goes to show that excellent results are obtained by spraying with Bordeaux mixture at the 6-4-40 formula (6lb. copper sulphate, 4lb. fresh lime, 40gal. of water) and applied at what is known as the "delayed dormant" period, i.e., just as the buds are bursting, followed with a further application, at 4-4-40 during the "pink" stage—after the buds have opened up, but just prior to the petals opening out. Either of the above control measures are highly recommended.

The use of Bordeaux mixture is not recommended after the fruit has set, for whilst it is effective in controlling Black Spot, the mixture causes a considerable amount of russetting, which to some extent lessens the market value of the fruit.

Even when Bordeaux is used at the pink stage, a little russetting will occur. Spraying the Apple tree for Black Spot during the dormant season is practically waste of time and material, for the spores of the disease are not known to winter on the Apple tree; therefore, applications at this period have very little effect upon the disease, but, as the warmer weather approaches, the spores arise from the dead foliage and attack the fruit at the stem end of the blossom clusters; whereas the spores of the Black Spot of the Pear (*Venturia prinia*) are known to winter on the tree, and dormant spraying certainly is effective. At the same time there is usually no necessity to especially apply a winter spray to Pear trees to check the spot. If spraying is carried out as outlined, excellent results can be obtained.

Citrus Moulds.—Citrus growers should all realize that with the approaching warmer weather the development of Blue Mould among the Oranges and Lemons will take place much more than is the case during the cold winter months.

Please bear in mind that the moulds do not affect the fruit unless the skin is injured in some mechanical way, such as dropping the fruit, marking it with the finger nails, roughly tipping it from the picking bag into the case, from the case to the grader, squeezing the fruit into place when packing, and the last two fruits that are packed are often injured by being pressed on to the edge of the top of the case. These little defects can be easily avoided. Thought, care, and the exercise of commonsense are all that are required in the proper handling of Citrus fruits to ensure the avoidance of Blue Mould, which is responsible for the loss of large quantities of Oranges and Lemons, and particularly during Spring and Summer months. Eggs are easily broken, so are Oranges and Lemons.

Banana Bunchy Top.

Investigations by Council for Scientific and Industrial Research.

BULLETIN NO. 30 of the Commonwealth Council for Scientific and Industrial Research, entitled "Investigation on the Bunchy Top Disease of the Banana," by C. J. P. Magee, B.Sc.Agr., bears evidence of a most thorough and painstaking effort to get at the cause and prevention of this most insidious disease, which is threatening the Banana industry of Australia. We publish herewith the 12 measures recommended, as the result of the investigation, for the control of bunchy top.

Measures for Control.

The present investigation, in considering the matter of control, has kept in view two distinct aspects of the bunchy top problem, namely:—

- (a) That concerned with the conservation, as far as practicable, of the industry in the affected areas, and the problem of bringing the industry in the same areas back to its original status, as well as the resuscitation of the industry in those portions of the area where it has become moribund.
- (b) The protection of the large area in Queensland which is in no way affected with the disease.

In considering the methods of control, it is proposed to discuss them under the headings of—(1) Exclusion, (2) Protection, (3) Eradication, (4) Immunisation, (5) Remedial Measures.

1. **Exclusion.**—The exclusion of the disease from any area can be effected, provided that none but healthy suckers are imported into that area, and that the area is sufficiently remote from any affected plantation to remove the possibility of migration or transportation of infective aphides.

The principle of exclusion should apply primarily to the unaffected areas in Queensland north of the affected zone, but should have application also to certain districts in the affected areas which occupy isolated positions and contain only a few plantations infected to a greater or lesser extent.

The exclusion of the disease demands, in our opinion, the efficient discharge of the following recommendations:—

- (i.) Prohibition of the transportation of any vegetative parts of any Banana plant or of any member of the genus *Musa* from any part of the areas

affected with bunchy top to the north, or to any unaffected or lightly affected area.

- (ii.) Prohibition of the shifting of the vegetative parts of any species of the genus *Musa* from any place within a newly affected area to any other place within that area, or, otherwise prohibition of any further planting-up within the area unless with suckers obtained from a certified disease-free area.
- (iii.) That no person shall be allowed to trade in suckers or to transport suckers from one area in Queensland or New South Wales to another, unless a special permit be granted by a competent Government officer, or by such persons as may be responsible for the control of bunchy top.
- (iv.) The registration of all plantations in which any species of the genus *Musa* is cultivated throughout Queensland and New South Wales.
- (v.) The destruction immediately of all Banana plants or any member of the genus *Musa* in backyard or similar gardens, that is, in other than registered Banana plantations, and the growing of such prohibited.
- (vi.) Immediate eradication and destruction in lightly affected areas of every infected stool in which any portion or plant has shown the symptoms of the disease.
- (vii.) The systematic examination by growers of all stools in plantations within a newly affected area, lightly affected area, or unaffected area.
- (viii.) Prohibition of the transportation of Banana fruit from any affected area to the zone north of the affected area, or out of any affected zone in which the disease may, at any time, appear, to any unaffected Banana area.
- (ix.) Bunchy top to be made a notifiable disease in all areas not so far known to be affected with the disease.
- (x.) A complete survey of the Banana plantations throughout Queensland by competent inspectors; immediate attention to be given to that portion of the unaffected area which adjoins the limits of the

recently discovered affected areas.

- (xi.) Illustrated lectures and practical demonstrations of an educational nature with a view to enabling Banana growers to identify the disease at its earliest stages; also distribution of a clear, concise, and well illustrated pamphlet indicating the symptoms of the disease and the manner in which it can be disseminated.

How the Trouble Spreads.

We have every reason for believing, from the study of the history of the disease in Australia and the most recent spread of the disease, that the extension of bunchy top to new areas has been effected primarily by the importation of affected suckers, and that the part played by aphides in the transmission of the disease concerned is of importance rather in spreading the disease throughout an affected plantation, or from an affected plantation to a healthy plantation in the neighborhood.

Efforts have been made over several years, both in Queensland and New South Wales, to check the spread of bunchy top by the establishment of buffer areas and the issue of regulations prohibiting the transportation of vegetative parts of the Banana plant or of any species of the genus *Musa* from the affected zone to unaffected areas. These endeavors have so far failed to stem the spread of the disease. A study of the recent outbreak in the areas north of the Brisbane River suggests the possibility that owing to incomplete data the buffer areas and boundaries, when established, did not take in the full extent of the infected zone. The failure of the earliest attempts to confine the disease to narrow boundaries can probably be explained similarly. The need for a complete survey of plantations is thus evident. For this purpose and for other reasons, the registration of all Banana plantations is essential to furnish information as to positions of plantations, many of which are isolated and inaccessible.

The presence of bunchy top in many backyard and similar gardens suggests that definite method of procedure is imperative in dealing with the casual cultivator of Banana plants. The individual growing a few Banana plants in his garden will not, generally speaking, exercise that amount of care which, on personal grounds, is necessary in the case of the individual attempting to grow Bananas on a commercial basis. Also, owing to the size of the inspectorate, it would be impracticable to carry out inspections of backyard gardens in city and town areas.

The educational aspect should not be lost sight of, when it is considered that the greater proportion of growers in the unaffected areas are ignorant of or only slightly acquainted with the characteristics and early symptoms of the disease. The gazetted of the disease as notifiable in areas at present unaffected would materially assist in the ultimate control of the disease.

2. Protection.—Protection against the disease would be effective if there were available some means of keeping the plants free from aphides. Under such conditions it would be possible to preserve intact a plantation containing healthy plants, despite the proximity of plants affected with the disease.

This Investigation has given special attention to the possibilities of protection offered by the use of sprays, dusts, and various specifics. On the experimental plots nicotine sulphate, pyrethrum powder, calcium cyanide, and chlorocide have been employed in an endeavor to protect plants against the disease. This work has been conducted in a very methodical fashion by the Horticulturist, and it may be said that the work has been done more efficiently than would be the case in any commercial undertaking, yet the results do not indicate that either spraying or dusting are efficient methods of control of the aphides. Neither do these operations produce more than partial control of the disease. Further, the cost of labor has proved prohibitive—about £34 per acre.

In view of the nature of the disease and the manner in which it is conveyed by aphides, it is clear that for any substance to be of value in the protection of plants against Bunchy Top it would be necessary for that substance to bring about a very high degree of control of the aphides, since it is their biological and not their mechanical effects that are disastrous. There are serious practical difficulties which militate against the effectiveness of spraying in combating the disease. Owing to the fact that the aphides feed on the base of the pseudostem and on young "peepers" down to several inches beneath the soil surface, and occupy most inaccessible positions between the closely adherent old leaf-sheaths of the pseudostem, it is a difficult matter to bring the spraying fluids in contact with them. Again, spraying fluids have no lasting effect, as has been demonstrated conclusively at the experimental plots. More important still is the fact that spraying becomes a really impracticable proposition in banana plantations where the rugged nature

of the ground and the difficulties in the transport of water appear to be insurmountable.

We do not consider that any protective means are of any considerable importance in a serious attempt to control the spread of Bunchy Top. Such sprays as Black Leaf 40 and Derrisol may be utilised in a minor way, in supporting the scheme of eradication by killing the aphides on a diseased stool and thereby preventing their migration prior to the digging out and destruction of the stool.

3. Eradication.—Eradication of all stools affected with Bunchy Top, on a most thorough basis, appears to us to be the real solution of the problem, keeping in view the exclusion of the disease from unaffected areas, the control of the disease in lightly affected areas, and the rehabilitation of the heavily affected areas where banana growing has become perilous or moribund.

It is patent, from the mode of transmission of the disease, that eradication of all stools showing any symptoms of Bunchy Top should be an ideal towards the attainment of which every possible effort should be made if the affected areas are to again offer facilities for banana growing, and if the northern areas now free from Bunchy Top are to be conserved. The eradication of all diseased plants, in that it removes the source of inoculum, seems to offer greater possibilities of success than any scheme which could be elaborated for the control of aphides—the carriers of the inoculum.

The disease is distinctly systemic, and we cannot over-emphasize this fact when recommending that eradication should be interpreted as meaning the removal and destruction of all parts of any stool which have developed symptoms of Bunchy Top in any of its parts. We mention this fact, since attempts are made by some growers to conserve apparently healthy plants in an affected stool by killing out only the affected parts. We are well aware that in a certain minor percentage of cases in which the killing out has happened to be done early enough, certain parts of the stool have stood up and remained healthy for a long period; that is to say, they have missed the infection from which the killed portions of the stool have suffered. The chances of success along these lines are very small, since there is ample opportunity for the spreading of the disease by aphides from the portion of the stool which first contracted the disease, independent of the possible diffusion of the virus from one member of the stool to another member of the same stool. Also from the practical standpoint it is not econo-

mical with respect to time on the part of the grower to reckon on the physiological independence of certain parts of the stool, which sometimes does obtain, and hence the impossibility of diffusion of the virus. Further, the adoption of any such procedure would so seriously damage the projected plan of eradication on a universal basis as to remove all hope of controlling the disease.

The Eradication of Bunchy Top in the affected areas demands, in our opinion—

- (i) The cleaning up of all deserted plantations.
- (ii) The cleaning up of affected plantations still under cultivation or not deserted. (This includes heavily infected plantations, "still payable" plantations, and lightly infected plantations.)
- (iii) The destruction of all banana plants growing in backyard and similar gardens.
- (iv) Rigid enforcement of regulations rendering the owner of any area liable for harbouring affected stools after the lapse of a stated period from the adoption of eradication measures.
- (v) The discouragement of further planting up within the heavily affected areas for an indefinite period, that is, until such time as a clean certificate can be given for the whole of the affected area.
- (vi) That after a period of twelve months from the date of the adoption of the eradication measures, the matter of the complete destruction of all banana plants throughout the affected areas in New South Wales and Queensland, or in certain plantations bearing unfavorable reports, be considered by the body responsible for the control of Bunchy Top.
- (vii) The future replanting in the infected areas to be done only with suckers from a certified Bunchy Top-free area.

(To be Continued.)

ORANGE JUICE REPLACES RUM.

The British Admiralty is replacing Jack Tar's regular lime juice ration with Orange juice. The official explanation is that Oranges possess more "bottled sunshine" and are cheaper and less bulky. In the past the Navy has spent £9,000 a year on lime juice, heavily fortified with rum. The Orange juice will be unfortified.

Queensland

Seasonal Notes.

Marketing Conditions.

Current News.

(By Our Correspondent.)

JUST AT PRESENT Queenslanders are being privileged to participate in such variety as a cessation of all railway traffic provides. For the producer of perishable products there is little recompense. He can see the result of his labours decay without the possibility of alleviation.

Much feeling has been introduced into the situation, which, briefly, may be summarised as a question whether the Government is to control the railways or abandon the effort, and hand over the management to 200-odd strikers, acting in defiance of the Arbitration Court and the advice of their own union.

Numerous statements are put forth by officials of unions concerned and unconcerned, but the whole question is constitutional versus mob rule. Meanwhile the average individual can only sit down and await the time when wiser counsels will prevail.

The seasons 1926-7

have not been so favorable that producers can look on a cessation of marketing with indifference. During the spring of last year excessively dry weather prevailed, and so far a repetition is now being experienced. Irrigation is practised to but a very limited extent—in many districts water supplies are not available—and unless rain falls in the very near future the Citrus crop will again be limited.

Bananas are not at their best, and would be much benefited by a copious downpour. It is freely reported that an effort is to be made to have

the tariff on imported bananas removed or materially reduced. This, if given effect to, would most seriously influence Queensland production. The advent of unfavorable seasons has been quite sufficient for most growers to contend against, and the handicap attendant upon competing with the black labor product would simply result in adding the majority to the rather formidable list of unemployed.

It is not understood—except from the vantage of vested interests—why the banana industry should be singled out for invidious distinction. In anticipation that the tariff would be maintained on a level with that applied to other fruits, fairly extensive planting has been done (and is in progress in the far north), and well over 1,000 acres are being prepared for planting in the south this season.

The banana grower does not ask for preferential treatment, but surely he may expect equitable consideration.

So far as the northern part of the State is concerned, unless the present tariff is retained, production consequent upon settlement of our best lands, is damned at the outset. It would unmistakably appear that politicians advocating a change know nothing, and care less for settling the distant areas, and for those already resident upon them.

The Season's Planting.

Apart from bananas and pineapples the planting effected this year was limited, but quite sufficient to absorb local nursery supplies—which were restricted, though a very large output is expected next season. Citrus trees

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

from N.S.W. evidently were also affected by ungenial conditions, for the supplies received were of exceptionally poor quality.

The annual controversy

re crown gall on the roots of deciduous trees was again to the fore, and resulted in a visit from a Victorian official, with the result that the matter was temporarily adjusted. It is stated that a local nursery is to be established in the Stanthorpe district, which may relieve the position so far as conflict with the southern States applies, but it is questionable whether it will be responsible for a recognition of the fact that very much of the land under fruit trees should not have been planted. Draining, which is being effected in some orchards, will undoubtedly have some influence, but it must be admitted that no system of drainage can improve fruit land to

the extent of being equal to that where the requirement is provided by nature, and the more variations from one extreme to another in rainfall, the more pronounced the disparity.

FRUIT MARKETING IN QUEENSLAND.

A Review of Market Conditions.

By Hedley Geeves.

THERE WAS A TIME when it was popularly supposed that the duties of a fruitgrowers' agent were very simple. There used to be an idea that all an agent in the market had to do was to reap a golden harvest by the simple process of subtracting commissions from sales. Fortunately for the welfare of the industry there exists to-day a better understanding both on the part of agents and growers of each others' difficulties. Any effort which strives to bring these two indispensable ends of the fruit industry together is performing a good service. Much has been said, and probably will continue to be said, about the desirability of eliminating agents altogether, but until the fruit industry is in a position to supply each and every retail shop, cafe, hotel, and other seller to the consumer, direct from the orchard, there will have to be some kind of distributive organization. So far the agent has proved the most economical and efficient channel by which the grower can reach the consumer. Obviously, therefore, there cannot be too close a co-operation between growers and agents. But somehow in the past there has been very little interchange of opinion or point of view between them. Conferences between manufacturers and sales agents are common and accepted practices. They are considered vital to the success of their respective industries, yet growers and agents never meet excepting when agents pay professional canvassing visits to growers, or on those all too rare occasions when growers come to market (usually for a holiday trip).

We people in Queensland are a long way from our growers, and suffer more in this respect than do our fellow agents in Sydney and Melbourne. Our market is growing, and its capacity as an outlet for fresh fruit is rapidly increasing. We have little opportunity of expressing ourselves on any of the many important aspects of market conditions which are of so much concern to growers as well as to ourselves. Therefore we welcome a chance such as this of giving growers any news which might be of value or interest.

On account of our being so far away from our main sources of sup-

ply there rests upon the Brisbane agent a grave responsibility in the matter of forecasting markets, and giving growers prospects of values. For instance, fruit from Victoria is eight days travelling to Brisbane. Allowing only a few days for correspondence between grower and agent, and for the grower to pack and despatch his fruit, practically a fortnight is required from the time of the grower's enquiry until his fruit reaches the market.

Infallibility is an impossibility, but much can be done to ensure a very decent standard of accuracy. Realising this need, the writer gave serious consideration as to the best means whereby accurate advice could be given to growers. It was eventually decided that a close and minute study of market conditions, coupled with the compilation of vital statistics, was best calculated to bring about this desideratum. For the last five years we have kept accurate records of market prices for the different varieties in which we are interested. Coupled with this tabulation is a record of quantities received both by us individually and by the market collectively. By the continuous study of these figures together with our own knowledge of peculiar conditions affecting certain periods, we are gradually but surely placing ourselves in such a position that we can eliminate much of that guesswork which has been, and in most cases still must be, so undesirable a feature of the "information" which passes from agent to grower.

We have reproduced in graphs the market fluctuations in the values of New South Wales Valencias as on the Brisbane market during the last five years. It is interesting to observe that in the matter of quantity the figures show an enormous increase. In the 1922 season we (that is the firm of H. V. Geeves) sold 9,000 cases of New South Wales Valencias. By 1926 this had grown to 16,000. This year we hope to exceed even that figure.

Space will not permit of a detailed analysis of each of the graphs, but it can be pointed out that the chief lesson to be learned is one which is common to all varieties of fruit. A very sudden rise is always followed by a correspondingly sharp depression, and very often a considerable period of low values follows as a result. The reason for this is that a sharp rise has two effects:—(1) It invariably brings supplies from growers. Agents wire away extravagant and attractive prices. (2) Shopkeepers who have bought at a high figure do not clear rapidly, because demand decreases as price increases.

Consequently buyers are holding expensive stocks when fresh consignments arrive, with the result that a depression sets in. Very often growers in response to high quotes send two or three lots quickly, and the supplies coming forward continue heavily for, say, ten days or a fortnight. It can thus be seen that a whole season's values can be seriously affected by such unfortunate circumstances.

An examination of the prices for the 1924-25 season bears out this contention. Our market opened badly. In early October we could only get 10/- to 11/- for Valencias. The result was that growers stopped sending. Prices rose on account of lack of supply until by the 20th October Valencias brought 17/-. Mark that they brought that price, but they were not worth it. Growers forwarded on the 17/- quote. Buyers did not clear, and down tumbled the market. It never recovered, and the December trade was badly spoiled. Growers lost hundreds of pounds simply because there was no satisfactory way by which reliable information could be made available.

Our graphs record many incidents such as this one, but the value of the lessons that we are learning is incalculable both to ourselves and our growers. Comparison over a period of years shows that similar effects are always the result of similar causes, and we are hopeful that our own persistency in our methods of keeping records will do something towards stabilising market prices. We realise that so long as fruit is a perishable commodity, its value will be affected by a large number of considerations. The fruit market will always be a sensitive one, but we contend that much money and worry can be saved for growers by a careful study of these very conditions which make for sensitiveness.

[We regret that, owing to pressure on space the interesting graphs forwarded have had to be held over for publication later.—Ed. "F.W."]

EUROPEAN AND AMERICAN APPLE CROPS.

The Secretary of the Tasmanian State Fruit Advisory Board (Mr. P. H. Thomas), is in receipt of the following reports in respect to the Apple crop prospects in U.S.A., Canada and Europe.

United States of America.

The United States Bureau of Agricultural Economics reports one of the lightest crops in years. The ten year average of June conditions is 69.7; last year it was 78.3, and for 1927 it was placed at 57.2, which is below any previous June condition in 17 years.

Present prospects are for a slightly reduced crop in the New England States; in the Central States the crop will be materially less than last year; Southern and Middle-west relatively light; the Pacific Coast promise a crop about equal to last year's. The prospects generally are for a materially decreased crop as compared with that of 1926.

An infestation of scab (black spot), the worst experienced in the history of the State's horticulture, has cut the Michigan Apple crop almost in half. The infection has taken place in the face of seven to nine applications of spray, but is traceable to weather conditions at the time of the first application.

Canada.

Weather conditions throughout the fruitgrowing provinces during the first half of June were generally cool with abundant, and in some instances excessive moisture, resulting in a general backward season. During the latter part of the month, however, conditions for the most part improved, and all crops are making good growth.

There have been some changes in the Apple situation since last month, and at this date it is difficult to arrive at a reasonably fair estimate of the total commercial crop, owing to the late set throughout the Dominion, and particularly in Nova Scotia. Indications, however, point to some increase over the five year average. Other fruits remain fair to good.

European.

English Apple prospects are somewhat less promising than a month ago, but still definitely better than last year. Most dessert varieties promise a fair to good crop, Cox Orange fair only; cooking varieties fair, but Bramley Seedlings will be decidedly short. Pears are reported very light with Plums below average, and of only fair to poor quality; Greengages are very light, and Damsons, although somewhat better than last year are short, which should create an opportunity for Ontario exporters.

In Sweden and Norway the season is backward and the Apple crop short; in Belgium and Holland a fair crop only is anticipated, prospects having declined from the estimates made at blossom time.

The German crop is reported fair to good, and in Switzerland the crop promises to be a normal one.

The condition of the Pear crop throughout the country on June 1 was 56.9 per cent, and the estimated production for the United States was 18,577,000 bushels, according to an announcement made by the United States Department of Agriculture.

Brown Rot of Peaches

(By S. Fish, B.Agr.Sc.,
Assistant Plant Pathologist, in the Victorian "Journal of Agriculture.")

BROWN ROT is the most destructive of all diseases of the Peach in Victoria. The disease was first identified in this State by McAlpine in 1902. In 1914, specimens were received from several districts south of the Divide, and an outbreak became widespread in 1918. In epidemics then and since, growers have lost entire crops. The disease was not present in the Goulburn Valley Peach areas until 1921, but since then it has spread throughout the district with remarkable rapidity.

This fungus (*Sclerotinia cinerea* (Bon.) Schrot), causes disease of the blossoms, twigs, leaves, and fruit. The affected blossoms turn brown and wilt, but do not fall for some time. That stage of the disease is rarely seen in the Goulburn Valley, though it is common south of the Divide. Leaf infection is very rare in Victoria, but has been observed in a few orchards in the south.

Twig infection

is brought about by the mycelium or strands of the fungus passing down the fruit-stalk of the affected blossoms or through the fruit-stalk of diseased fruits, or from wounds in the bark, or through the lenticels. The greatest development of strands takes place near the cambium layer, where the mycelium or strands lie dormant until the following year. In some cases, this development of strands cuts off the sap-flow, and the parts of the tree beyond such a point die back. In other cases the strands of the fungus will work along the inside of twigs until they are 6 inches from the point of infection. Such twigs, although sometimes they may appear healthy, are in reality, diseased.

These twig infections are to be found on all infected Peach trees throughout the State, and are the principal sources from which the disease is spread. When the tree bursts into blossom, or even before, tufts or strands of the fungus that have forced a passage through small cracks in the diseased bark or through lenticels appear on the surface of the diseased wood. Later, chains of conidia, or summer seeds of the fungus, form on the surface of the tufts, and continue to develop through spring and summer. These are distributed far and near by air currents. Hence hundreds of diseased twigs may serve as centres of infection. Very few orchardists have any knowledge of blossom or twig infection. The injury is usually attributed by them to frosts.

The first visible sign of the disease on the fruit is a minute brown spot. This enlarges, and the whole of the fruit may be involved in 24 hours. Conidia, or summer seeds of the fungus, appear at the centre of infection. Later, concentric rings of conidia form over the diseased area. A large proportion of the infected fruit falls, while some fruits remain as "mummies" on the tree. The over-wintering form of seed of this fungus (ascospore) has not been found in Victoria.

High humidity, caused by a drizzling rain, together with warm conditions, will in 24 hours bring about suitable conditions for the growth of the fungus on the fruit.

Peaches from the Goulburn Valley sometimes reach the Melbourne and Sydney markets in a very bad state owing to their being infected with brown rot. Such fruit will be apparently sound at the time of packing, but soon afterwards the summer seeds of the fungus present on the surface of the fruit germinate and penetrate the Peaches, producing fungus strands which completely spoil the fruit.

This development of the fungus on the fruit in transit is favored by warmth and moisture.

Control Methods.

The following methods of control are recommended:—

- (1) Prune out all diseased twigs, as these are the principal means of carrying the disease on to the following year.
- (2) Pull off the "mummies," as the fungus works from these into the wood of the tree, and is carried over to the next season.
- (3) Three years' spraying experiments on the control of brown rot of Peaches, carried out at Bairnsdale by Mr. C. C. Brittlebank, of the Science Branch, have demonstrated that the disease can be checked by the following sprays:—
 - (a) Just before the buds begin to swell—lime sulphur, 1-9 of Baume 32.
 - (b) As the buds show pink—lime sulphur, 1-35.
 - (c) As the fruit begins to color—lime sulphur, 1-80.
 - (d) One month to three weeks before the picking—lime sulphur, 1-100.

Experiments for the control of brown rot of Peaches in the Goulburn Valley were initiated last season. So far, lime sulphur sprayings, as carried out south of the Divide,

described above, have given the most promising results.

To minimise the chances of infecting sound fruit while it is being picked and packed, those engaged in the work should be extremely careful not to touch it after handling diseased Peaches without washing their hands thoroughly, as the fine grey powder on the surface of the infected fruits consists of thousands of seeds of the fungus.

The experiments conducted last season in the Goulburn Valley indicated that fruit from the multiple-lime-sulphur-sprayed trees carried far better than fruit from unsprayed trees, even though no difference between them was apparent at the time of packing.

PRICE OF CANNING FRUITS.

£7/10/- per ton for Peaches in U.S.A.

WHAT can Australian factories afford to pay for canning peaches which must meet the market competition of those grown in U.S.A.? The "Pacific Rural Press" states that on June 28 the directors of the California Canning Peach Growers' Association fixed a price of £7/10/- a ton on No. 1 and £3/15/- on No. 2 grade of Clingstone canning Peaches. Last year the prices fixed were £10 and £5. No price has been set for freestones for canning. This will be done as the season progresses. The canners have expressed their intention not to pack many freestones this season. Consequently this class of Peaches will compete more heavily than usual with the regular drying varieties, and the cannery price will have to compete with the drying price. There are advance rumors heard in the San Joaquin Valley of 5d. being offered for good dried peaches, but no definite business has been booked.

Of course the canners have been saying, "With this big 1926 'carry-over' we still have, it proves that the 1926 £10 Peach price was too high." There is something in this, because the fruit is still here to bear out the assertion. Yet this "carry-over" is being sold out very rapidly, and may be entirely gone before 1927 canning starts. But to do this the canners are taking a steady loss.

APRICOT PRICES TREND SLIGHTLY UPWARD.

The first firm price offer on canning Apricots in the Santa Clara Valley was made in July by the California Co-operative Canneries, when they began paying £18/10/- a ton on sound 'cots grading only 12 to the pound or larger, and £12 to £15 a ton for 14's and 16's to the pound, according to the way a grower's crop grades out.

SUBSCRIBERS' PAYMENTS RECEIVED.

We acknowledge with thanks having received, at Head Office, the following renewal subscriptions from our readers from August 20 to September 20, 1927. Except where otherwise stated the payment credits the subscriber to June, 1928. The list does not include payments to our branches and agents in the other States, nor deliveries through our wholesale distributors.

If any reader wishes to have a receipt we will forward same on application.

K. A. Arbuckle (Aug., '27), Aust. Fruit & Produce Co., Aust. Co-op. Producers' Wholesale Fed. Ltd., R. L. Adams (June, '30), J. L. Bolton (Dec., '27), Bureau of Central Sugar Mills, E. Borley, W. Blackburn, W. V. Bartram, F. Byrd (Aug., '28), J. H. Combe, S. W. Chapman, A. E. Chave, J. E. Cramp, A. Copeland, S. T. Calvert (June, '30), P. J. Clarke (June, '30), Robt. Dowker, Godfrey Deck, Major H. Dakin, J. F. Ebert (June, '27), A. J. Eastley, Wm. Ellison, J. F. Finger (June, '27), M. Feiglin, T. A. Frankcombe (June, '30), R. Gregson, W. M. Gibson, R. E. Gardiner, A. G. Glover (June, '29), W. T. Hawker (July, '27), J. Holroyd, Hill Bros., L. Hanlon (June, '30), Johnson & Harfield, H. M. Jones (June, '29), Estate of the late J. H. Knapstein,

PUBLICATIONS RECEIVED.

Journal of the Council for Scientific and Industrial Research, Vol. I., No. 1.—First number of the quarterly journal issued by the Council, giving the results of investigational work and objects of the Council. Extracts will be published later.

Empire Marketing Board.—Posters setting forth the aims and scope of the Board, and advertising Australian and New Zealand Apples; these posters have appeared in the leading newspapers of the United Kingdom. Special poster set welcoming home the Duke and Duchess of York, setting forth the wealth and resources of Australia and New Zealand.

The Codlin Moth.—A bulletin by C. French, Jr., Government Entomologist, and G. T. Levick, B.Agr.Sc., Assistant Entomologist, Department of Agriculture, Victoria.

A NEW INSECTICIDE.

Paterson's Concentrated "Clensel" Insecticide is the name of a new spray just being placed on the Australian market. This spray has achieved remarkable results throughout England and India. In India in the last six years 85 per cent. of the tea plantations are using it mainly for Red Spider, Thrips, and Mildew. It is claimed by the manufacturer that "Clensel" is a growth stimulator and Insecticide combined. It is unrivalled for softening hidebound trees and completely eradicating on contact Red Spider, Scale, Thrips, Curly Leaf, White Ants, Green Fly, and all insect pests, as well as fungi of every kind, such as Black Rot, Mildew, etc.

It is claimed that "Clensel's" usefulness does not end with the killing of parasites and prevention and cure



The Growers' Market at Tacoma, Wash., U.S.A.

These markets were erected by private enterprise, not by the Government or the Municipality. This is a typical market interior.

W. W. Kirk, T. B. Lamont (Dec., '27), G. C. Lang, N. M. Keamy, H. Lineker (June, '29), J. H. Main (Aug., '27), E. Mann (Dec., '27), F. B. MacKenzie, Knox Moore (June, '29), H. M. Moulden (June, '30), G. V. Neuman, H. L. Newman (Aug., '28), O'Hanlon Bros. (June, '27), P. J. O'Rourke, W. Payne (Sept., '27), W. R. Pounsett, L. Pepperell, R. L. Priest, Rutland Bros., T. E. Robson, O. C. Rath (Oct., '28), E. G. Smith, C. A. Setterberg, W. E. Sargood, Jas. Sayers, R. S. S. Sanders (Aug., '28), F. E. Smith (June, '29), E. G. Terry, H. W. Taylor, G. G. Turri & Co., F. Thompson, Thompson Bros., Woollin Fruitgrowers' Co-op. Co. Ltd., E. Weitnauer, P. A. Walpole (Aug., '28), A. and W. Young, A. Yates & Co. Ltd. (Auckland) (June, '31).

Agent: "When are you going to pay for that sprayer I sold you?"

Fruitgrower: "Pay for it? Why, you said that in one season it would pay for itself."

THE PORT OF HULL.**Prompt Handling of Goods.**

Recent advices received from the London & North-Eastern Railway, give a number of instances of prompt despatch at the Port of Hull, by vessels engaged in the U.K.-Australian trade.

The "Jervis Bay" discharged 2,000 tons of general cargo, and maintained a rate of 95.5 tons per working hour, the vessel being turned round in 25 hours.

The "Ferndale," with a general cargo of 3,600 tons, maintained a rate of 138.07 tons per working hour, the vessel being turned round in 59 hours.

of fungi. Its valuable properties have a tonic effect on the trees and bushes, stimulating growth and root action. "Clensel" is an efficient disinfectant, and is highly anti-septic. It also has a healing effect on open sores.

"Clensel" forms an immediate and perfect emulsion in any kind and quantity of water. No stock solution is required, as it can be prepared just where required as fast as water is added.

"Clensel" is absolutely non-poisonous and non-injurious, and can be applied when trees or bushes are in full bloom. The sole agents for Australia are Clensel (Aust.), 56 Hardware-street, Melbourne.

New Zealand.

Bud Selection Work. . . Fruit Exports.
New Plantings.

BUD SELECTION AND PLANT IMPROVEMENT WORK.

Horticultural Institute's Work.

At the recent Conference of the N.Z. Institute of Horticulture, the report of the Committee on Bud Selection was read by the Dominion secretary as follows:—

Bud Selection.

Citrus Fruits.—The report signed by the Citrus Bud Selection Committee has covered the ground as far as Oranges and Lemons are concerned. I would, however, add that it is the intention as soon as time and funds are available, to select typical fruits of each variety now handled, and have these photographed in colour or reproduced in wax naturally coloured so as to have a fixed type available as a standard in each case.

Apricots.—The work that has been done on this fruit in co-operation with the Selection Committee of the Teviot Fruit Growers' Association has extended over six years, and is fairly well known. During those years, about 60,000 selected buds have been cut from the typical trees of the varieties decided on by the Teviot Committee, and these have been supplied to the leading stone fruit nurseries in both islands. In fact, practically all the Apricot buds now put on by the nurserymen are from the Teviot supply.

Other Stone Fruits.—While no organised effort has been made to select standard stock trees of Peaches, Nectarines, Cherries and Plums true to name, and of the best types, quite a demand has sprung up for reliable budding material. For several years past this has been met as far as possible. The demand is an increasing one. During the season just closed upwards of 15,000 stone fruit buds have been supplied to the nurseries. Investigations carried out in all parts of the Dominion show that there is great need for correcting errors in nomenclature and for selection work being carried out with two objects, as follow:—(a) Of securing that all buds under a particular name shall be of the same variety (thus eliminating duplication); (b) that the best types only of each variety be selected to work from. The experiences of the past show that the need for work on these fruits is as urgent as it was in the case of the Apricot. At the right time your committee would be prepared to make suggestions for dealing with the whole question in a comprehensive and thorough manner, but it

must be remembered that this is a great national matter and a comprehensive scheme is needed which will require some outlay of money at the start, and a certain annual outlay above what the charges for buds can meet.

Pip Fruits.—Recently there has grown up a small demand for the supply of guaranteed Apple and Quince buds, while the leading varieties of export Apples are well known, and there are little, if any, errors in nomenclature. The same does not apply to all garden sorts, and newer varieties. While the great commercial varieties are recognised, there is room even here for observations and selection with a view of retailing for stock purposes only material of the best types. This is evidenced by the numerous sports reported each year—

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
 { Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

some of which are improvements. The aim is to so arrange our work as to make available a regular supply of certified propagating material of all commercial fruits, as early as possible. It is altogether too important for the matter to be left to chance.

Other Phases of Selection Work.—Other phases of selection work which are urgently needed cover root stocks, and the adaptability of the various types to the different varieties, under different climatic and soil conditions. For these investigations a bureau of plant industry is greatly needed, one or more horticultural research stations, linked to which should be the scientific and practical collaborators throughout the Dominion. In the meantime, it is possible, if assistance is forthcoming, to collect a vast amount of reliable data within New

Zealand which will be of inestimable value and save much duplication, when a station is established. This applies equally to root stocks as to varieties and types.

Small Fruits.—A great economic field for selection work lies in connection with the currants, raspberries, and other small fruits, but unless funds are available to carry on systematic investigations and selection, the problem cannot be attacked. Your committee desires to place on record its appreciation of the co-operation and assistance received from many fruitgrowers and nurserymen throughout the Dominion, which has made possible what little initial success has been attained.

Citrus Bud Selection Committee.

Your committee have to report that a second year of definite work on the Citrus trees of the province has been completed. As far as possible the method adopted has been that laid down by Mr. A. D. Shamel, of California, and agreed to by the committee at its first meeting.

A number of the best trees have been selected, and for the past two seasons, with the consent of the owners, buds have been selected and distributed for top working and propagating by the nurseries, the principal varieties distributed being Lisbon and Eureka Lemons and Poor Man Oranges, with a few others.

Number of Buds Distributed.—During the past two seasons about 10,000 selected buds have been cut and distributed, the cutting being done in several districts from Whangarei in the north to Tauranga in the south. Some splendid trees have been found in Henderson and Avondale. All the evidences show that the conditions recorded in U.S.A. apply equally to this Dominion. There are many outstanding trees, and in some instances parts of trees bearing typical fruits, others alongside being off type more or less. From information we were able in several instances to trace in the trees in the groves the effect of the selection individually done years ago by the nurserymen.

Co-operation Evidenced.—The co-operation of the nurserymen and the Citrus growers is assured, and the committee desires to thank all who have assisted in any way to give the selection work in connection with Lemons and Oranges a start on a sound basis in the Dominion. While a small charge has been made for the buds, it has only been enough to pay for the actual cost of transport and packing, etc. The buds have been given freely, and the time of selection and cutting has also been given.

Research Station for Sub-tropical Fruits Needed.—The work in hand also needs the support and co-opera-

tion of a sub-tropical research station, where new varieties can be tried out, root stocks tested, pest control and disease treatment experimented with, and all the many items which require investigation treated and records kept. This is far beyond what it is at present within the ability of your committee to undertake. This intensely interesting and important work is commended to your sympathetic consideration.

Appreciative reference to the value of the work was made by several delegates, and the report was adopted.

NEW ZEALAND.

Varieties of Apples and Pears Exported, Season 1927.

The following particulars of the varieties of Apples and Pears exported from New Zealand in the past season have been compiled by the Horticulture Division from export certificates. The figures for Apples represent one-bushel cases, and those for Pears, crates consisting of three trays, each tray containing from 10 lb. to 12 lb. of fruit.

Apples.—Sturmer, 157,358; Jonathan, 118,556; Delicious, 91,063; Dunn's, 28,368; Cox's Orange, 24,347; Dougherty, 18,961; Statesman, 16,519; London Pippin, 9,082; Cleopatra, 7,626; Worcester Pearmain, 5,979; Lord Wolseley, 4,616; Premier, 3,607; Rome Beauty, 5,815; Rokewood, 2,608; Newtown Pippin, 2,510; Scarlet Nonpareil, 2,539; Tasma, 2,410; King David, 2,171; Ballarat Seedling, 2,076; Stayman Winesap, 2,169; Alfriston, 1,909; Adams Pearmain, 1,566; Pioneer, 1,317; Gravenstein, 1,244; Spitzenberg, 1,164; Stark, 789; Granny Smith, 718; Willie Sharp, 511; Brownlee's Russet, 507; Hoover, 430; Ribston Pippin, 410; Washington, 445; Salome, 379; McIntosh Red, 397; Shorland Queen, 377; Simmonds Winter, 311; Yates, 262; Boston Russet, 164; Baumann's Reinette, 150; Blenheim Orange, 100; Edward Lippiatt, 100; Rona, 97; Parlin's Beauty, 95; Golden Pippin, 84; Frimley Beauty, 64; Shepherd's Perfection, 54; Cambridge Pippin, 50; Celo, 37; McMahon's White, 25; Senator, 10. Total number of cases, 522,146.

Pears.—P. Barry, 6,835; Winter Nelis, 4,368; Winter Cole, 4,063; Keiffer, 1,676; Vicar of Winkfield, 1,444; Josephine de Malines, 1,230; Beurre Claireau, 861; Packham's Triumph, 432; Beurre Bosc, 313; Elizabeth Cole, 273; Beurre Diel, 160; Doyenne du Comice, 128; Beurre d'Amanli, 90; Conference, 67; Glou

Morceau, 60; Beurre d'Anjou, 28; Le Conte, 25; l'Inconnue, 19. Total number of crates, 22,072.—"Journal of Agriculture," N.Z.

NEW ZEALAND FRUIT EXPORTS.

The official abstract of statistics for July, 1927, shows that during the year ending June 30, 1927, 20,750,986 lbs. of Apples were exported, to a value of £258,805, as compared with 27,834,824 lbs. in 1925-26, valued at

SWANN & Co.

Established 1822.

A century's experience in handling

FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention

Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

SINCLARE

CARBONISED
SULPHUR

Spraying Mixture.

THE MOST EFFECTIVE
NON POISONOUS FUNGICIDE AND
INSECTICIDE YET DISCOVERED
DOES NOT BURN.

Manufactured by
SINCLARE & COY
BOX 3, KING ST. RO.-SYDNEY.
(Works, Alexandria)

£362,264, a reduction in value for the past season of £103,459.

The official statistics issued in Wellington in August give interesting figures relating to the consumption of foodstuffs. The figures represent an average of the last three years. The abstract states:—

Fresh fruit is now regarded as quite an important article of food, and the consumption figures throw some light on the extent to which the different fruits are consumed in the Dominion. The ever-popular Apple comes easily first with 37 lb. for each person, Bananas being second with 17½ lb., Oranges third with 10 lb., and Pears next with 6½ lb.

The figures showing the amount available for home consumption and

the consumption per head are given below:—

	Amount available Home consumption. lb.	Con- sumption per head. lb.
Dried Apples and		
Apricots	573,997	0.41
Currents	1,501,338	1.09
Dates	3,112,011	2.25
Figs	850,987	0.62
Prunes	1,751,850	1.27
Raisins and Sul-		
tanais	8,438,109	6.10
Apples	51,220,835	37.02
Pears	9,233,169	6.67
Lemons	1,971,786	1.43
Bananas	24,438,374	17.66
Oranges	13,849,271	10.01

NEW PLANTINGS AT HAWKE'S BAY.

The good prices of all fruits have already had quite a stimulating effect on the orchard planting. In stone fruits there has been quite a revival, while even apples are again being considered, and some of the sorts, such as Statesman and Ballarat Seedling, are again in inquiry for orchard planting. Growers are realising that the fireblight is not going to extinguish the apple and the pear industry, but on the other hand stimulate the true orchardists to a more live interest in the details of their profession.

PORT OF MANCHESTER.

Despite unfavorable trade conditions affecting various British industries during the period under review the following particulars recently to hand indicate that the trade of the Port of Manchester continues to improve, the progressive increase in quantity of cargo handled during recent years being well maintained. Manchester Ship Canal Co.'s Revenue Returns for Half-year's Working to June 30, 1927.

The traffic receipts for the half-year ended June 30, 1927, amounted to £759,052 as compared with £690,731 for the corresponding period of last year—an increase of £68,321.

The net revenue of the whole of the undertaking for the half-year (after providing for interest and fixed charges) was £47,123 more than the corresponding half-year in 1926.

In the latest annual statement published by the Board of Trade, it is shown that Manchester secured third place in order of importance amongst British Ports on the value of cargo handled during the previous year, the figures being as follows:—

London	£745,425,872
Liverpool	579,680,083
Manchester	115,647,548
Hull	115,083,167

Wm. Jno. Wade, representative of the Manchester Ship Canal Co. for Australia and New Zealand.



Fundamental Principles of Citrus Growing.

[By Redvers J. Blatt, Ph. D., of South Africa and California]

(Concluded from p. 357, September)

(6) Fungous Diseases.

FUNGUS DISEASES as a rule are not as difficult to control as insect pests, and neither in California nor South Africa is there a definite programme for spraying against fungi, as is the case with scale. For this reason fungous diseases have not received proper attention. It is true that damage due to insect pests shows up much more quickly than that caused by fungi. Fortunately, good farming is in a way a safeguard against fungous diseases. For example, Blue and Green Mold, formerly great enemies of the Citrus grower, are no longer feared, because by means of careful handling, the epidermis of the fruit is not injured, and the mold cannot penetrate the rind.

Fungous diseases are usually more prevalent when the climatic conditions are abnormal, or when trees are allowed to become run down through lack of care. In the coastal sections certain fungous diseases may become serious, and may need control methods, e.g., Citrus scab, due to the organism *Cladosporium citri*, and Melanose, due to *Phomopsis citri*, but in the interior districts these diseases do not warrant control methods.

Black rot, caused by *Diplodia natalensis*, and Whithertip or Anthracnose, caused by *Colletotrichum gloeosporioides*, are responsible for a certain amount of damage every year, but it is doubtful whether it will pay to apply control methods. Only in wet years has "Brown Rot" caused serious losses. This rot is caused by the same organism, viz., *Phythyactis citrophthora*, that causes a disease of the bark in California.

A good insecticidal spray of Bordeaux or lime and sulphur, should give good results against most of the fungous diseases, except the trunk dis-

eases. The time of application of the sprays, however, will have to be determined for each area.

Certain physiological diseases, like "Ring Blotch," Mottled leaf, and Chlorosis are often confused with fungous diseases. These troubles are more the results of malnutrition or some physiological derangement rather than specific diseases.

Trunk Diseases.

Undoubtedly the most serious fungous diseases are the trunk diseases "Gummosis" and Scalybark. In California "Gummosis" is caused by the fungus *Phythyelystis citrophthora*, while there is also a *Botrytis* gumming. In South Africa "Collar Rot" is the worst fungous disease, and has caused a great deal of damage, many beautiful old seedling Orange trees, 25 feet in height have been ruined by Collar Rot. Florida is also troubled with Collar Rot, but not California. It is claimed in Florida that the disease is caused by the fungus "*Phytophthora terristris*," but it is not definitely known whether the South African form of the disease is the same as that of Florida.

"Collar Rot" is usually associated with poor drainage, which must be corrected at once. Too much water around the trunk of the tree often leads to Collar Rot. In South Africa the Rough Lemon is used as a stock, because it is fairly resistant to "Collar Rot." In California, Seville stock is used because it is more resistant to "Gummosis" than other stocks.

With both Gummosis and Collar Rot the diseased bark is found on the trunk of the tree, extending from near the ground to a distance of 12 to 24 inches up the trunk. "Scalybark," as the name indicates, is a disease of the bark, but is found on the trunk of the tree and on the

branches. The bark peels away, and gives an appearance similar to that of Gummosis or Collar Rot. It is not known definitely how the disease is caused. What is known, however, is that the disease spreads rapidly, and soon many trees in the grove are affected. All trees suffering from trunk diseases decline, and the yields are materially affected.

Treatment.

In the early stages of the "Collar Rot" and Scaly-bark, correct treatment gives good results, but if the disease is far advanced Scaly-bark is almost impossible to cure. The treatment consists of scraping the infected part until there are no more signs of the disease. In other words, all infection must be removed, hence it is necessary to scrape about two or three inches beyond the apparent area of infection, in order to make sure that all sources of future infection have been removed. After the scraping is completed the scraped area must be painted with Bordeaux paste, which acts as a disinfectant.

Growers should do all in their power to eradicate these trunk diseases, for they are the worst of our fungous diseases.

(7) Careful Handling and Distribution of the Crop.

The late G. Harold Powell, of the Bureau of Plant Industry, was sent in 1904 from Washington, D.C., U.S.A., to conduct an investigation into the causes of the wastage of Oranges shipped from California to the East. He came to the conclusion that most of the wastage was due to careless handling of the fruit. He found that Blue and Green Mold could only attack the fruit through abrasions in the epidermis of the fruit, and that sound fruit would not decay, but just dry out.

Since then the growers of California do their utmost to handle the fruit as carefully as possible. All pickers and packers wear cotton

gloves to prevent scarring of the fruit with their nails. In addition, from the time of picking until the fruit is unpacked by the retailer, the fruit is handled carefully. Picking boxes are examined regularly to see that there are no rough edges that may bruise the fruit, which is usually hauled on motor trucks. Good roads are essential for the safe transportation of the fruit.

Throughout the packing house care must be taken to see that the fruit is not being bruised at any stage. Faulty graders or box presses cause a great deal of damage.

No matter how well the fruit is grown, if it is not picked and packed carefully, it will not bring in good returns. The same can be said of the distribution, which usually depends on the agents, and finally, the retailer. It is not intended to make any recommendations with regard to distribution, except to warn growers to make sure that they have the best agents they can get. In exporting, and throughout the distribution of the fruit from producer to consumer, agents, brokers, and retailers are essential, each being a specialised field of work. The cold storage accommodation at the docks and on the boats is a most important item, and unless this side of the business is properly taken care of, all the growers' efforts will be in vain. The only way to achieve success is through wholehearted co-operation of all concerned.

GRADES FOR CITRUS FRUIT.

Quality and Size.

A report issued by the Manager (Mr. W. S. Arnold), and Inspector A. Smith, of the Kurrajong Soldier Settlement (N.S.W.), states that new regulations under the Plant Diseases Act, dealing with the grading of Oranges, Mandarins, Lemons and Grape Fruit, have been approved by the Government. It is provided that there shall be four grades of these Citrus fruits—Special, Standard, Plain, and Factory.

Special, Standard and Plain grades consist of fruit of normal shape and appearance, sound, and of reasonably even color, and, in the case of Oranges, they must not be dry or immature.

The difference between these grades is in respect of disfigurement, which is defined as scars, scratches of the skin, excessive Navel segments, cavities, punctures or blemishes due to any insect or fungus pest, hail marks, or oil stains.

In both Special and Standard grades, the area of disfigurement, must not exceed 10 per cent. of the total superficial area of the individual fruit, but in the Special grade not more than 5 per cent. of the number of fruit is to be disfigured. In the Plain grade, the disfigurement can be increased to 25 per cent. of the superficial area of the individual fruit.

Fruit Must be Graded.

The regulations provide that Citrus fruit shall not be sold unless it is of one of these three grades.

The maximum variation in the diameters of each kind of fruit shall not exceed $\frac{1}{4}$ inch, and the container shall be legibly marked with the name and address of the packer, the variety of the fruit, and the grade and number or size of the fruit.

The lettering of the description, etc., shall be in letters not less than $\frac{1}{2}$ of an inch (in cases of half-bushels or over), except that, if the particulars are printed on a label pasted on the end of the container, they may be in letters not less than $\frac{1}{4}$ of an inch in height.

Factory grade consists of fruit which does not comply with the requirements of the other three grades, except that it must not be decayed, and, if Oranges, shall not be dry.

Fruit of this grade can only be sold to a factory for manufacturing purposes, and the containers must be

of Fillmore, U.S.A. He decided to work over 1,456 Lemon trees. The centres of these trees were cut out and Orange buds inserted, the remaining branches being left to continue to produce Lemons, which they did. At the end of the second year, the Lemon tops were cut off, and the next year the trees produced 1,800 boxes of Valencia Oranges. The succeeding year the trees produced 6,000 boxes of Valencias. The plan worked so well that Mr. Elkins tried it on a further 1,040 Lemon trees, but this time he left the Lemon tops on for three years. The trees produced a case of Lemons per tree while the Orange buds were growing. He states he is satisfied that the wisest plan is to allow the Lemon tops to remain for three years after the centre has been re-budded to Oranges.

NEW MANDARIN.

"Fagan Beauty."

Fruitgrowers from the various districts were very much interested in a display of Mandarins at the Gosford Citrus Show on September 3. The fruit was an exceptionally fine sample, large in size and of attractive appearance, and was grown by Mr. W. J. Fagan, of Galston, says the "Farmer and Settler." Mr. Fagan said that wherever the Mandarins had been shown they had created a sensation and had never been beaten in competition. At Gosford the fruit was awarded two first prizes, and at Galston Show the previous week, it had secured first, second, and third prizes.

Mr. Fagan said that the type was one evolved by himself, which had been named "Fagan Beauty." Although only three years of age, the trees had already proved profitable, and his orchard contained no fewer than 1,500 trees of this type. As regards keeping quality, the fruit was much superior to the Emperor variety, and for this reason alone it had an immense advantage.

On the open market the irresistible quality of the fruit had been a feature commanding ready sale. Prices, too, had been far and above those for Emperors. Mr. Fagan said that as an experiment he recently consigned to the Sydney markets both the new type and Emperors. The Mandarins were sold on the same day, but whereas the Emperors returned only 15/- a case, the other consignment realised 20/-.

Orange juice drinks are now being provided at the Centrai Railway Station, Perth.

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
. APPLES.

Foreign Apples a Speciality.

marked in letters not less than $\frac{1}{2}$ of an inch in height, with the name and address of the grower, and the words, "For factory use only."

RE-BUDDING CITRUS TREES.

A Crop While the Buds Grow.

An unusual system of top-working and re-budding of Lemon trees has been carried out by Mr. C. C. Elkins,

Tasmania

Seasonal Notes. :: Orchard Operations.
(By Our Correspondent.)

WHILST GOOD RAINS have fallen in the North and N.W. districts, the South is generally experiencing a dry spring.

During early September, frosts occurred throughout the Derwent Valley and Bagdad districts, which somewhat affected the Apricots and stone fruits.

The dry warm weather has been very suitable for the conduct of orchard works, and most areas are well ahead with the cultivation, spraying and other essential operations.

Although it is too early to forecast the coming season's crops, there is evidence that with normal conditions a good yield may be expected, the buds on most varieties looking particularly healthy and vigorous.

**Fruit Shipments
United Kingdom
and the Continent**

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.

AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

Fruit shipments to the mainland are still being continued, and very satisfactory prices are obtained for good quality consignments, from 18/- to 21/- being received for colored varieties.

To date, approximately 1,414,420 cases of fruit, Apples and Pears have been exported to the Sydney, Adelaide, Brisbane and Melbourne markets.

With the amount of 1,107,000 forwarded "overseas," this makes the total of approximately 2½ million cases for the season, as only a few thousand cases are now left in cold store.

The total shipments last season to "overseas" and State markets comprised approximately four million cases.

Election of State Fruit Advisory Board.—In accordance with the

resolution passed at the Southern Fruitgrowers' Conference, a roll is at present being compiled of all fruit-growers owning or occupying one acre or more of orchard.

As soon as this is completed, an election will be held to appoint the representatives of Southern districts.

The various municipalities have been grouped into five divisions under the adopted scheme, each of which will elect one producer's representative upon the Board.

Port Huon Wharf.—A commencement is now being made with the extension work which is necessary in order that "overseas" vessels may visit this port and load fruit for the European markets.

When completed, Port Huon will serve a very large fruit-producing district, and in a normal season at least one million cases should be shipped to "overseas" and interstate markets, representing a saving of about £16,000 in freight and eliminating two handlings.

Port Huon will be the third port from which Tasmanian fruit will be exported direct to overseas markets. All consignments at present are forwarded via Hobart or Beauty Point.

Fruit Cases.—A serious attempt is being made to improve the Tasmanian hardwood case, which is generally used for fruit export.

A number of the leading saw-millers are installing planing machines which will ensure a smooth surface to the timber and allow for neat stencilling and branding.

It is estimated that the additional cost for seasoning and planing case material will not amount to more than 1d. or 1½d. per case. Consignments of fruit which were forwarded last season in containers which had been prepared in the way detailed, brought very favorable comment upon the London market, and what is more important comparatively better prices.

The general opinion of those concerned in the industry, is that the lines of improvement lie in a more careful selection and treatment of the "hardwood" timber used for case material rather than the importation from foreign sources.

Bitter Pit Investigation.—Following the investigations which have already been carried out by the Cambridge Low Temperature Station in regard

to this disease, arrangement has now been made for a continuation of the work during the coming season.

A number of "type" orchards have been selected in which the class of trees, soil treatment, pruning, rainfall, and other important matters, have been recorded.

Consignments of the variety, Cleopatra, which is very susceptible to bitter pit, will be arranged during the shipping season from each of these orchards, so that comparison can be made of the incidence and occurrence of the disease under the different conditions of growth.

The experiment should provide some interesting data that will be of value to fruit exporters and growers.

ORCHARD OPERATIONS FOR OCTOBER.

(By P. H. Thomas, State Fruit Expert.)

Cultivation.

CULTIVATION should now be well advanced, the surface soil being brought to a suitable tilth and maintained in such condition until the end of the growing season.

In many orchards, constant ploughing to the trees has been responsible for the formation of soil ridges. This is undesirable, and an effort should be made to level the surface soil throughout the area. Orchard trees that are situated upon such ridges tend to develop a surface-rooting habit; moreover, the loss of moisture through evaporation during the summer months is greater than where level culture is practised.

Throughout the early Spring months the trees require every assistance available, in order to set and develop their fruits. The main essential is sufficient moisture. Proper cultivation, intelligently applied, will materially assist to provide this. After a good rain, as soon as the soil condition permits, it is desirable to stir the surface to prevent a crust forming, and to conserve the moisture supplied for the trees' future requirements.

Manuring.

Practically all fertilizers used to improve the coming crops should now be applied. In late districts, quick acting manures such as nitrate of soda, sulphate of ammonia, and sulphate and muriate of potash may be disced into the soil during the early part of the month.

Manuring tests which have been conducted emphasize the desirability of early application, if full benefits are to be obtained during the current season. This is especially necessary in the drier districts.

Spraying.

From the commencement of the month, fruitgrowers will be busily engaged in applying the "pink" spray applications to control possible black spot infestation. Wherever possible the different varieties of Pears and Apples should be treated as they reach the correct stage (i.e., when the individual blossom buds have separated from the cluster). Bordeaux 4-4-40 is advisable for use upon the hard-skinned and susceptible kinds, such as Sturmer, French Crab, Cleopatras, and all Pear varieties except Josephine de Malines. For those which are inclined to be tender the proportions of copper sulphate and lime should be reduced one-half, or lime sulphur 1-35 (33 deg. Beaume) substituted.

Peaches and Cherries which are affected by aphides should receive an extra application of nicotine sulphate if the pest has not been entirely controlled by early sprays.

Grafting.

Re-working of unprofitable Apple and pear varieties may be carried out during the early part of the month, as long as the scions have not commenced to make growth.

In order to prolong the period of operation, the scions should be stored in a dark cellar, being covered with a moist bag. This will retard their development and keep them dormant for two or three weeks longer than if kept in the open.

In some cases the grafts when inserted in position, remain dormant for a considerable period before coming into growth. Operators should not be too ready to decide that the work has been unsuccessful owing to this reason. As long as the bark remains firm and no shrivelling takes place there is a chance of development. When it is definitely decided that a "miss" has occurred, it is advisable to maintain one or two shoots of the old variety at the head of the limb for "budding" purposes in February or March.

Toleration.

When we take another man's measure we seldom make allowances, but strictly use our own individual rule for the purpose, not taking into consideration that, as regards him, it may or may not be correct.

PATENTS
GEORGE A. UREN
PATENT ATTORNEY
"HEATY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

APPLE TREES AND "HAIRY ROOT" INVESTIGATION.**Plant Pathologists Confer.**

A conference of the plant pathologists of all States met in Melbourne on September 20, under the chairmanship of Professor T. G. Osborn botanical adviser to the Commonwealth Council for Scientific and Industrial Research. Others present included Messrs. C. C. Brittlebank (biologist), and D. B. Adam (plant pathologist, Vic.), W. M. Carne (botanist and plant pathologist, W.A.), J. H. Simmonds (plant pathologist, Q.), H. N. Nicholls (micro-biologist, T.), G. Quinn (Chief Inspector of Fruit, S.A.), G. Samuel (plant pathologist at the Waite Agricultural Research Institute, S.A.), E. Mackinnon (Director of Plant Quarantine, Commonwealth Health Department), and Dr. R. J. Noble (Principal Assistant Biologist, N.S.W.).

The conference was opened by the Victorian Minister for Agriculture (Mr. W. Slater), who referred to the rejection of Victorian fruit tree stocks by the Queensland Government owing to the supposed presence of crown gall or "hairy root." Victorian pathologists were convinced there was no such disease present, the condition objected to being the normal development of fibrous roots natural to the Northern Spy stock.

After exhaustive discussion, delegates passed the following resolution:—

Whereas there is no evidence that definitely diagnosed crown gall, caused by bacterium tumefaciens, as a serious disease in the establishment of an Apple orchard in Australia; and as there is evidence that a form of root development occurs in certain types of soil in which numerous fine roots contributed to the action of bacterium tumefaciens and as there is evidence that different types of stock profoundly affect the growth of Apple trees in various classes, delegates agreed that it was desirable that more attention should be given to determining the citiology of gall and "hairy root" conditions found on Apple trees in Australia.

It was further decided that tests should be initiated to determine the behaviour of different varieties and types of stock used for the Apple on various classes of soil.

In future, plant pathologists in the different States will be instructed to prepare an interchange of information as to the occurrence of any new and serious disease that may be diagnosed in their respective States. A plant disease census will also be pre-

pared, indicating the distribution and severity of plant diseases throughout the Commonwealth.

DUSTING METHOD.

The dusting method of combating and controlling insect and fungus diseases of plant life has made remarkable progress in Australia, and particularly South Australia, within the past 18 months. This movement, which has been found to be very successful in the United States of America, where it is rapidly superseding the use of wet sprays, owes most of its progress in Australia to the pioneering work of Mr. H. G. Whittick (of Atomol Dusts, Adelaide). The latter is a devout believer in the efficacy of the dusting method and claims that practical results by fruit, vine and vegetable growers have shown it to be successful.

In spite of the natural prejudice

TASMANIA

Leading Australian Firm of
Fresh Fruit Exporters.

Manufacturers IXL Jam and
Canned Fruits.

Hop Factors—Largest Cool
Stores for Hop Storage in
Commonwealth.

All Orchard Supplies avail-
able at all times.

Agents for—

Associated Evaporated
Apple Manufacturers, London
Assurance Corporation, Federal
Steam Navigation Co. Ltd.,
Scottish Shire Line of Steam-
ers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

against new methods and a new industry, it is pointed out that every commercial Tomato-grower in South Australia (which produces some of the finest Tomatoes in Australia) has already adopted the dusting system for the control of insect pests. In addition, large numbers of vignerons, orchardists, vegetable growers and home gardeners have realised the benefits of dusting.

The dusting method is becoming increasingly popular among home gardeners, especially as a dust has been put on the market which, it is claimed, will effectively check practically all the diseases known to the suburban gardener. In consequence there has been a large demand for dusting guns.

Orchardists and vignerons find dusting an economical proposition, as they can cover more ground, and do it more thoroughly at less expense than formerly.



Dried Fruit Department

Grubs in Dried Fruits.

Storage and Fumigation Tests.

(By G. B. Tindale, B.Agr.Sc., Cool Storage Experimentalist, and C. French, Jun., Entomologist, in the Victorian "Journal of Agriculture")

THE PROBLEM of the control of "grubs" in dried fruits has of late received much attention, for on its solution the success of the industry to a large extent depends. Cleanliness at the source of production is, of course, of the greatest importance, but something more than cleanliness is required, if infestation is to be prevented while the fruit is in storage.

Some experiments of the value of fumigation and cool storage were recently made at the Government Cool Stores. Twenty-four 56-lb. boxes of dried fruit were bought in the ordinary way of business. After examination for the presence of insect pests, the fruit was then treated, and later a further examination was made.

The second examination was not made for a fortnight after removal from the cool store, in order that any insects which had remained dormant during storage might have a chance to develop.

The Value of Fumigation.

From the experiments very interesting deductions may be made. The first concerns the efficacy of fumigation, which was carried out at the Department's fumigating plant in the usual way adopted for dried fruits. The lid of the box is removed, and the box placed in the cyanide chamber over night. Such treatment undoubtedly kills insects present at the time, but the results show that fumigation will not prevent further infestation. This latter infestation may be due to two sources:—(1) Hatching out of eggs not destroyed during the process of fumigation, and (2) further attacks by insects from outside sources.

The Value of Cold Storage.

The second deduction concerns the efficacy of cold storage as a means of preventing grub infestation

in dried fruits whilst in storage. It was thought that a temperature below zero would be more effective than one about 34 deg. F. (at which temperature most fresh fruits are stored). The results from one lot stored at 34 deg. and from another lot kept at 25 deg. (at which temperature dried fruits do not freeze hard) showed that both temperatures were satisfactory. The lower temperature probably would be the better where it was desired to reduce the period of storage.

The quality of the cool stored fruit was excellent, indeed the samples looked as fresh as new season's fruit, while some boxes actually had gained in weight.

The dried fruits which had not been in cool storage were still quite good in quality, but they were not so fresh looking as those that had been stored. Their value, however, was considerably reduced, not only by the presence of "grubs," but also on account of the presence of a relatively large amount of insect excreta and webbing.

The Cost of Cool Storing.

The cost of cool storing a box of dried fruits for five months is about 1/9 (1d. per week), while the cost of storing under ordinary warehouse conditions for the same time is about 3½d. (1-6th of a penny per week). Thus the cost of eradication of insect pests by cool storage methods is 1/5½ per box of 56 lbs., or less than one-third of a penny per lb. Thus it can be seen that cool storage offers a means of eradicating insect pests from dried fruits at a reasonable cost.

It should be remembered that under the Pure Foods Act the sale of dried fruits infested with grubs is a punishable offence, and any such fruits found in one's possession are liable to seizure.

N.S.W. DRIED FRUITS ACT, 1927.

Poll of Growers Favors Operation.

THE DRIED FRUITS ACT, 1927, was assented to in February last. It provides for the constitution of a New South Wales Dried Fruits Board to control the marketing of vine-dried fruits, viz., Sultanias, Lexias, and Currants, produced in New South Wales. Similar legislation has existed in Victoria and South Australia since December, 1924. The original legislation of those States was for a period until the 31st March, 1927, and in both cases the Dried Fruits Acts were re-enacted to remain in force until 31st March, 1930.

The Victorian and South Australian Governments have constantly requested New South Wales and Western Australia, the only other two States of the Commonwealth in which vine-dried fruits are produced, to pass legislation to control the marketing of this produce, and recently Western Australia complied with these requests.

So far as New South Wales is concerned, similar requests have from time to time been received from growers at Curlwaa, and other centres where vine dried fruits are produced on the River Murray, and also from Griffith on the Murrumbidgee Irrigation areas. These representations resulted in the question being included in the deliberations of the Bathurst Conference held in September of last year, when a resolution was carried that legislation be introduced to control the marketing of vine-dried fruits in New South Wales on similar lines to that existing in Victoria and South Australia—such legislation, however, not to be adopted until an affirmative vote of growers had been recorded in favor of the legislation being brought into operation.

The Government, following upon this resolution, took immediate action to introduce into Parliament a Dried Fruits Bill, which was framed on similar lines to the South Australian and Victorian Acts. Provision, however, was made during the passage of the Bill through Parliament by

amendment, to the effect that same was not to be brought into operation until at a poll of growers, in which at least 70 per cent. of the growers recorded their votes, a majority of votes had been cast in favour of the Act being given effect to.

The Minister for Agriculture, who is also Chairman of the Water Conservation and Irrigation Commission (Mr. P. V. Stokes), advises that this poll closed at 4 p.m. on Monday, 12th September, 1927. There were 506 growers on the roll, of which 427 growers recorded their votes, which represent 84.38 per cent. The following are details of the vote:—

In favour of the Act being brought into operation . . .	287
Not in favor of the Act being brought into operation . . .	100
Rejected as informal	40
Total	427

It will therefore be seen that more than the required percentage of voters has been obtained, and an affirmative vote has been recorded.

The quantities of dried fruits produced by the voters who registered an affirmative vote totalled 31,488 cwt., and the quantities produced by those who registered a negative vote totalled 10,342 cwt. This information was obtained without destroying the secrecy of the ballot.

Action will now be taken to constitute the New South Wales Dried Fruits Board, which is to consist of three members, one to be the Chairman, will be appointed from time to time by the Governor; one will be elected by the growers of vine-dried fruits on the Murrumbidgee Irrigation areas, and the third member will be elected by the growers of vine-dried fruits in the rest of New South Wales. Nominations will be invited as early as possible for the two members of the Board to be elected.

IMPORTS OF AMERICAN PRUNES.

(To the Editor.)

Sir,—I believe the American Prune is being sold here for 8d. per lb., and so killing trade for the local-grown Prunes. As there is a duty of 4d. per lb. on the imported American Prune, so with freight added, I consider it is a case of "dumping." Can your paper do anything in the matter?—Thanking you, yours, etc.,

R. L. GREENWOOD.

Orchardist, Merrigum, Vic.,

31/8/27.

(We suggest that those whose views are in accordance with Mr. Greenwood's should bring the matter before their local Associations for action.—Ed., F.W.)

DRIED FRUITS LEGISLATION.

Control Continues to Operate.

A conference of representatives of the Dried Fruits Boards of Victoria, South Australia and Western Australia was held in Melbourne in September, when matters of common interest to the industry were discussed. Following an explanation by the Crown Solicitors of Victoria and South Australia of the effect of the judgment in the recent High Court

would bring into operation the Dried Fruits Act of that State.

The Victorian Minister of Agriculture (Mr. Slater) afterwards stated that the opinion which had been obtained from counsel confirmed the conclusion already arrived at by the law officers of the States interested, viz., that the right of the State to compulsorily acquire property within its borders, and which had been affirmed by the High Court in the wheat case, had been reaffirmed in the recent action, and that this power could be exercised without limitation. In other words, all dried fruits actually within the State could be lawfully acquired, and no exception existed in favor of fruit the subject of interstate contracts. The Minister added that certain amendments to the Dried Fruits Acts would be proposed for removing the provisions fixing quotas and determining prices, which, the High Court considers, were beyond the powers of the State Parliament.

While the conference was sitting, an opportunity was taken of meeting the Commonwealth Dried Fruits Control Board, and of discussing matters of common interest, affecting the marketing of the Australian dried fruits crop overseas and in Australia.

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and
— economical on the market —

We manufacture a complete range
— of Sprays for the Orchardist —

including Arsenate of Lead (paste and powder), Lime Sulphur, Red Spraying Oil, Copper Soda Mixture, Benzole Emulsion, Spray Spreader etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES
Manufacturing Chemists

6 Patterson Street } Abbotsford, Vic.
155 Yarra Street }

T. STOTT & SONS

Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

case of James v. the State of South Australia, conference affirmed the desirability of the various Boards carrying on the administration of the acts, in co-operation with each other, as in the past. Resolutions for the protection and stabilisation of the dried fruits industry were unanimously carried, and these were later submitted to a conference of representatives of the Boards and the Ministers of Agriculture of Victoria and South Australia. General satisfaction was expressed with the result of the poll recently taken amongst growers of New South Wales, which

ADVERTISING DRIED FRUIT.

At the opening of the advertising exhibition of empire products held at Olympia, London, reference was made to the fact that in the last five years the imports of Australian dried fruits into Britain had increased from 19,000 to 53,000 tons per annum.

Methods of advertising, which had combined to bring about this gratifying result, were described; it was also stated that:—

Vigorous steps have been taken to popularise Australian products in Britain, and to encourage the wider use of dried fruits during the summer months. The opening of the new season was marked by a campaign throughout Britain, the aim of the Director of Australian Trade Publicity being to create a steady demand throughout the year. Encouragement will be given to the revival of old English country recipes—which include among their ingredients Sultanas, Currants, and Raisins—to the baking of novel confections and Raisin and Currant bread, and to the wider use of packet dried fruits as sweetmeats, and of dainty fruit sandwiches. To this end half a million copies of a specially compiled Australian cookery book, comprising many dried fruit recipes from Australia and elsewhere, will be distributed free. The advertising campaign, it is claimed, will be on a scale never before at-

tempted on behalf of empire produce. There will be extensive newspaper and poster advertising, and other means of publicity to be employed include the issuing of hundreds of thousands of toy balloons, as well as paper bags, cartons, and invoice headings for the use of grocers. Last year 12,000 grocers in Great Britain made shop window displays of Australian dried fruits, and this season there are indications that the co-operation of the trade will ensure a large increase in the number of displays. It is also hoped to introduce Australian products to many thousands of new users through the medium of exhibitions and Empire Shopping Weeks. Some of the largest biscuit and cake manufacturing firms in the country have undertaken to use Australian dried fruits exclusively in their products, and important catering and tea shop firms are using the fruit for the first time. Methods will be adopted that will enable the public to be sure they are getting Australian fruit.

All of which is really excellent, but why is nothing of this sort being carried on in the home market? Cannot a few of the half-million recipe books and a proportion of the extensive newspaper and poster advertising be spared for Australia?

At present the advertising of dried fruits in Australia is infrequent, meagre, and remarkably parsimonious.—“S.A. Storekeepers’ and Grocers’ Journal.”

HOW TO CARE FOR FROSTED GRAPE VINES.

American Experience.

In view of the damage from frosts which occurred in the Murray Valley late in September, the following article by J. R. Cooper, of the University of Arkansas, in a recent issue of the “American Fruitgrower Magazine,” will prove of interest. He says:—

With the Grape crop for this season in the Concord Grape area nearly a total loss, the question of treatment of vineyards during the following season arises.

We must not, in the face of the present loss, overlook the fact that next year’s crop is also partially involved. To insure a good crop next year, we must provide the proper kind and amount of fruiting wood. There is some danger that, if the vines do not receive some attention in the way of pruning following this heavy freeze, we may not have a good supply of the right kind of wood. Where the new shoots have been only partially killed back, the chances are that new growth will arise from every

node. There may be so many of these new shoots that none of them will attain sufficient size to afford good fruiting wood for next year. In such cases if no fruit remains, one of two treatments seems necessary.

One method is to go over the vineyard and snap off all of the new shoots. The present shoots have arisen from the largest of two or three buds found at every node or

The other method, and one which will be less expensive than snapping off new shoots, consists merely of cutting back old canes, leaving three or four of the present shoots on each shortened cane. New shoots will arise from these present shoots if they are not entirely killed, and from secondary buds. These will furnish plenty of wood for next year but they will lessen the chances for fruit production from secondary buds. We must not overlook the fact, however, that the chances for fruit production from secondary buds will be very low this late in the season. The vines should not be too heavily cut back, because if only a few shoots arise, the growth will be so vigorous that only bull canes will result. From the standpoint of fruiting wood for next year, this second method is believed to be superior to the first in that more fruiting wood will be produced close to the trunk.

In case the new shoots are frozen back almost to the canes there will be no necessity of doing anything in the way of snapping shoots or cutting back, since, in such cases, the only new growth that will occur will be from the secondary buds. Where sufficient fruit remains to warrant such procedure, the shoots should be left.

From the standpoint of vineyard sanitation, at least one good spray with Bordeaux mixture should be given after the plants begin to recover. No change should be made in early cultivation unless the very early cultivation be made more thorough. However, thorough cultivation need not extend quite so far in the season as with a good crop on the vines. As a matter of fact, it may be found advantageous to stop cultivation sooner in some vineyards, at least, in order to check growth. If it is apparent that vines are making too much growth, they may be checked to some extent by planting a cover crop in the vineyard that will compete for water. If, on the other hand, there is insufficient growth, cultivation should extend later in the season.

FOOD VALUES OF FRESH AND DRIED FRUITS.

One average cluster of fresh Grapes weighs as much as four clusters of Raisins, but the food value of the Raisins is four times as great as that of the Grapes. Eight fresh Figs, which weigh as much as thirty dried Figs, have only one-fourth the dried Figs’ food value. Thirty-eight halves of Peaches weigh no more than four fresh Peaches, yet they have four and one-half times the food value.

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,

11 Neal St.,

COVENT GARDEN
LONDON, W.C.

and at

Jamaica House,

9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:

LLOYD’S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.

431 and 432

joint of the cane and in most cases a secondary bud remains at the base of the young shoot. Where the shoots are snapped off, this secondary bud, if uninjured, will throw out a new shoot and may produce a small crop of Grapes. Where this operation has been performed relatively early in the season, 15 to 20 per cent. of a crop has resulted. This late in the season, however, the value of this procedure from the standpoint of a crop this year is more questionable. It will, however, insure good fruiting wood for another year. These shoots can be removed to the best advantage by taking hold of them close to the union of the cane and pushing sharply to one side. If the force is applied backward, there is danger of injury to the secondary bud.

Western Australia

Viticultural Industry Overseas Fruit Shipments
Seasonable Orchard Work.

W.A. VITICULTURAL INDUSTRY.

Last season's vintage in Western Australia is expected to constitute a record, according to a statement by the Government Viticulturist (Mr. H. K. Johns), recently, who anticipated that the increase over the previous season's yield would be at least double that year's increase over the preceding season. The following interesting survey of the industry may be quoted:—

"In round figures," said Mr. Johns, "about £90,000 are sent out of this State every year for wine. The bulk of this is imported from the Eastern States, and in 1925-26 the figure was 145,000 gallons. In the same period 4,000 gallons were imported from overseas. This wine is not in any way superior to what is being made in Western Australia, yet only 238,726 gallons were produced in the State last year. It will thus be seen that our total yearly consumption of wine is nearly 400,000 gallons, and nearly half of that comes from outside the State. The fact that so large a proportion is imported shows conclusively that local production could be greatly stimulated. This would be the outcome if local wines were asked for by the public. The high quality of our wines is a fact admitted by those who have travelled beyond the State. The industry has been brought to a high state of perfection during the long period through which it has slowly developed. One well known winery in this State has been producing wines for over 60 years. This experience must mean a great deal in the production of a palatable wine, suited to local requirements, but at the same time comparison has been maintained with the wines of other countries. Western Australian wines exhibited at Wembley were well reported upon."

Mr. Johns urged that if the local product were more freely used by local consumers of wine, it would lead to a great expansion of the area under cultivation. Statistics showed that for every eight acres planted with vines, there was one man employed, and this did not include case-makers, travellers, and such periodic workers as pruners, pickers, etc. When this position was compared with some other primary industries, it would be realised what importance attached to the more intense culture of vine

growing, if a greatly increased population was aimed at. The area under wine Grapes in Western Australia in 1925-26 was 1,240 acres. In South Australia there was 50 times that area. The difficulty in the past had been that the population of the State was too small to enable vignerons to develop their business on a large scale. Now, however, the position was slowly but surely remedied.

"England imports about 17,000,000 gallons of wine per year," said Mr. Johns, "and in 1926 Australia sent 2,000,000 gallons. Of this only 20,000 gallons went from this State.

Brand Your Fruit Cases and Bags

with

CALDWELL'S STENCILLING INKS

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

A good sign of the times is the fact that arrangements are being finalised by the Valencia Vineyard for the shipping of 10,000 gallons of local wines for the London market about the middle of next month."

W.A. WINES.

At the Annual Conference of the Primary Producers' Association of W.A., it was decided to urge that local wine licenses should be renewed only on condition that a fair proportion of Western Australian wines were sold.

AT THE BRISBANE EXHIBITION.

It was a Victorian visitor who looked at the Montville fruit and said in an incredulous tone: "Thought you had a drought," and it was a long, lank, spare sun-burnt Queenslander who drawled, "Oh! Queensland's big enough to grow this—and have a drought too!"—"Producers' Review."

SEASONAL WORK FOR OCTOBER.

(By Geo. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture.")

CULTIVATION in the orchards needs every attention this month. Ploughing and cross-ploughing will have been completed in September, and the cultivator must be kept going unless prevented by rain. Should rain occur the cultivator should be used again as soon afterwards as the land is dry enough to work without becoming sticky. If the top soil from four inches to six inches in depth is kept in a thorough state of tilth during the summer months, sufficient soil moisture will be retained for tree growth and fruit production, even should the summer turn out more than usually dry.

The land around the trees which cannot be reached with the cultivator or other horse-drawn implements must be freed from weeds and loosened with a digging fork or pronged hoe.

Young trees in newly planted orchards require special attention, and hoeing should be lightly done so as not to disturb the roots which are now making new growth.

Insect pests and fungus diseases feel the genial effects of spring this month and reproduce abundantly, needing constant watchfulness and care to keep them under control.

Pear scab and powdery mildew of the Apple, amongst the fungi, and fruit fly and Orange aphid, amongst the insect pests, are some of the most important requiring attention at this time of the year.

W.A. FRUIT SHIPMENTS, 1927.

The total shipments of fruit from Western Australia this season to the United Kingdom and the Continent of Europe are given as follows:—

Fremantle.

	Apples.	Pears.	Grapes.
U.K.	196,245	9,747	14,915
Europe	106,640	173	—
Total	302,885	9,920	14,915
Grand Total—	327,720.		

Albany.

	Apples.	Pears.	Grapes.
U.K.	60,421	11,474	—
Europe	72,597	1,349	—
Total	133,018	12,823	—
Grand Total—	145,841.		

Total.

	Apples.	Pears.	Grapes.
U.K.	302,885	9,920	14,915
Europe	133,018	12,823	—
Total	435,903	22,743	14,915
Grand Total—	473,561.		

Apart from the above, approximately over 150,000 cases of fruit have been shipped to other countries.



A variable spray lance 9ft. in length can also be supplied, and with this a height of almost 50ft. from the ground can be sprayed.

ALL TYPES OF SPRAYERS MADE. 1½ PINTS TO 88 GALLONS.

PRICES FROM 3/- TO £77/10/-

Full Particulars and Catalogues from—

COOPER, PEGLER & CO. LTD., 24d Christopher Street, London, E.C. 2.

SPRAYING, LIME WASHING AND DISINFECTING

VERMOREL 22-GALLON

HAND POWER SPRAYER

Working at a pressure of 220 lb. per square inch.

PRICE, £15 COMPLETE.

Brief Specification:—22 gallon container made of special brass alloy, weight 1½ cwt. pressure gauge and large compression cylinder, two large tread wheels push and carrying handles, mechanical agitator, 10ft. of indiarubber tubing and variable spray lance.

The spray lance can be adjusted without stopping spraying to throw a spray to any distance from 2ft. to 50ft. from the nozzle.

A second outlet is provided so that 2 lances can be used at the same time.

Woolly Aphis Parasite.

(Aphelinus Mali.)

Grower Asks "Is it Likely to Become a Pest?"

Practical Experiences Wanted.

Mr. Geo. Holder, Croydon (Vic.) writes: "Some time ago, in a local daily paper, I saw a short account about the orchards in Batlow, N.S.W., and their experience with the Woolly Aphis parasite. Can any of your readers please tell me if, after the parasite has cleaned up the Aphis, the parasite itself becomes a pest or not? If it does not become a pest, and if it does the amount of good they say it does, then surely it would be worth our while to use it more extensively here."

The following are the experiences of a few Victorian orchardists who have established the Aphelinus parasite. We should be glad to publish the observations of other growers in regard to the work of this wasp in clearing up the Woolly Aphis pest.

Mr. J. W. Bailey, Narre Warren, writes: "Re Woolly Aphis parasite. We asked Mr. C. French to bring colonies of this to our district, which he kindly did, and it appears to have established itself during the last two years. It is not possible to state definitely that it has cleaned aphis up, because there has been so little in the district for the past few years.

I do not think that there is any likelihood of this little wasp becoming a pest."

Mr. R. M. Finlay, Diamond Creek, writes:—"I received a supply of this parasite from our local orchard supervisor, but was not successful in get-

ting it established in my orchard, as I have not been able to find any traces of it. I know of several growers in this district, who have got it established, and they speak very highly of the good work it is doing."

Mr. J. H. Lang, Harcourt, writes:—"The Aphelinus Mali was introduced into my orchard about 18 months ago, but up to the present it has not spread to any marked extent. I understand that it takes two years for the parasite to thoroughly establish itself. There is no record of it attacking beneficial insects after it has cleaned up the Woolly Aphis."

Departmental Experience.

The Superintendent of Horticulture (Mr. J. M. Ward) reports:—"Our experience with the Woolly Aphis parasite, Aphelinus Mali, has been all that could be desired. The insects that were liberated at Bacchus Marsh and elsewhere have done excellent work. Of course these wasps will not exterminate Woolly Aphis, nor is this desirable. What this insect does is to reduce the aphis to such an extent that it ceases to become a pest, as the aphis is held in check.

"It has been asked, should the aphelinus exterminate the aphis would it become a pest itself? Of course this is impossible, as aphelinus can only parasitize aphis or kindred insects, so that in the event of changing its host it would merely extend its beneficial work."

One of the finest demonstrations of the efficacy of the Woolly Aphis parasite is to be seen on the orchard of E. A. Waller, Olinda Park, Lilydale. This property has in three years had practically 100 per cent. clean up. There is no danger of the parasite doing any damage.

Experiments are being conducted in W.A. to test the efficacy of Aphelinus Mali against Citrus Black Aphis.

Opinions from New South Wales.

The N.S.W. Department of Agriculture reports that the Government Entomologist is very well satisfied with the work done by the Woolly Aphis parasite, Aphelinus mali, in cleaning up the aphis-infested orchards in the different apple-growing districts of the State, such as Bathurst, Batlow, Armidale, and Uralla. That the growers to whom the parasites have been distributed by the Department are also pleased with the valuable work it has done in cleaning up the Woolly Aphis in their orchards is evidenced by the number of letters of appreciation that have been received by the Department.

Mr. E. Ray, of Kelso, Bathurst, is one of the many satisfied orchardists who considers that Aphelinus mali is well worth going to a lot of trouble to establish in an orchard. Mr. Ray obtained twigs carrying the parasite from the Department some few years back, and now confesses that for a long time he had grave doubts about the ability of the parasite to cope with the Woolly Aphis. He is now most fully convinced of the good work that the parasite can do. When harvesting his apples in the past autumn he

discovered that the parasite had spread right throughout the orchard. In fact, he states that it has complete control of the Woolly Aphis on his Jonathan trees. Mr. Ray is only one of many orchardists who have paid tributes to the good work done by *Aphelinus mali*, which, without a doubt, is going to be a big factor in fighting this serious pest.

Help the Parasite to Spread.

Orchardists are advised to save any prunings bearing parasitised woolly aphis. The over-wintering parasites will hatch out from these in about four to six weeks' time, and will then seek out the patches of Woolly Aphis. A good plan is to accumulate the prunings in heaps on the headlands, or even tie the prunings carrying parasitised aphis on to the limbs of trees in any section of the orchard where the Woolly Aphis is bad, and to which the parasite has not spread.

By advising orchardists to save prunings the Department does not mean that they should go against the recognised practice of destroying all prunings that are likely to carry over diseases and pests from one season to another. This point must be watched closely, and only healthy prunings that are actually carrying the parasitised aphis should be saved. Destroy all other prunings.

How to Establish the Parasite.

The Department is accumulating large batches of the over-wintering parasites for distribution to orchardists in the coming spring. When one or several twigs bearing parasitised Woolly Aphis are received these twigs are merely tied to an infested branch or twig on an apple tree in the orchard. The parasites on emerging in spring or summer will readily find the Woolly Aphis and parasitise them so that the parasite may become well established within about six weeks or eight weeks—that is, after one or two generations of the parasite have had time to develop. The winged parasites will of course spread to the immediately adjacent trees and even further in the orchard, and by the end of the summer season may have spread and made a noticeable reduction in the aphis. The spread in the orchard should be assisted by cutting twigs with parasitised aphis from the first infested tree and tying them on to other trees throughout the orchard. Parasitised Woolly Aphis may be readily recognised by their black swollen bodies and the absence of the white secretion covering the healthy aphides.

In spraying for the control of woolly aphis much damage is likely to be done to the parasite *Aphelinus mali*. Where the parasite has been

active during the latter part of the previous summer and autumn, and the trees are fairly clean and are showing a good percentage of parasitised aphis, it is advisable not to apply the usual clean-up winter spray for woolly aphis, generally, but to confine it to such trees as are badly infested with woolly aphis and on which parasitised aphis are hard to find.

PARASITE FOR THE CODLIN MOTH.

It is interesting to learn that Mr. W. Ranger, Manager of the Committee of Direction of Fruit Marketing, Queensland, who is on a visit to U.S.A., has forwarded to the Queensland Entomologist (Mr. Jarvis), a small consignment of parasites which prey on the codlin moth. The parasite, the name of which is not stated, has been found most useful by Walnut-growers in California in controlling the codlin moth, which there does considerable damage to Walnuts and stone fruits as well as Apples.



Teviotdale Orchard, Tongala, Vic.—A Glimpse of the Drying Ground and light railway.

FRUIT FOR FACTORIES.

Proper Branding Essential.

Under the Fruit Act Regulations, fruits are allowed to be forwarded to factories for manufacturing purposes providing the bags are branded with the name and address of the grower or with his registered brand, and providing also that the bags are branded with the words "For factory use only."

Recently consignments have arrived at Spencer-street in bags not branded as required, and the consignees have wished to take delivery for the purpose of re-packing the fruit from the bags into cases to be sold in the ordinary way on the open market.

The Superintendent of Horticulture (Mr. J. M. Ward), states that such practices cannot be permitted, and that it is the intention of the Department to strictly enforce the regulation in this regard.

A CHOICE ORCHARD.

AS ONE ENTERS the gate of the Teviotdale orchard, Tongala, Victoria, one is much struck by the great beauty of the layout. The red roof of the home is seen nestling among trees of every shade of green. Along the main watercourse which separates the property from the road, there is a magnificent row of tall Willow trees. The drive passes a Lemon grove on the right. On the left there are Palms and Wattles alongside a channel. A branch winds through the exquisite collection of flowering shrubs and trees and passing the lawn, the rosery, and the front door, joins the main drive again to the garage and thence over a culvert to the main sheds, which latter are separated from the house by trees, giving it protection on all sides.

Outside the ornamental trees there is the home orchard which appears to contain practically every variety of fruit tree that grows. As we write, the Apricots and Peaches in the commercial orchard are covered with bloom, among which the bees from the ten hives are very busy. Between the trees there is a green carpet of Peas, to be ploughed in for manure. Last year some Dun Pea seed, purchased from Brunnings, grew remarkably tall, some of the straw being no less than 4 feet 11 inches long. This magnificent crop was ploughed under with chemical manure, while it was glorious in purple bloom.

The trees are now mulched with hay, which was carted on to the orchard last autumn to the extent of 60 tons. Work done to stabilise markets is all to the good, but while waiting for results from this, the wise man makes certain of success under present conditions by studying the trees individually, and giving them constant expert attention of an extraordinary kind from the time they are first planted. This method produces a much larger crop per tree than is usually obtained, and solves the problem for the orchardist.

Our illustration shows part of the drying ground and railway with fruit drying on the trays.

The owner's boys, for whom this fine orchard was planted, wish to enter a profession. It is therefore now on the market, as will be seen from the advertisement on the front cover of this issue.

An Irishman applied to a bank for an overdraft. Amongst other questions the manager asked him if he had any liquid asset.
"Only a case and a half," replied the applicant.

New South Wales

Fruitgrowers' Conference : New Apple and Pear
Grades : Crop Prospects

GRADING APPLES AND PEARS.

New Regulations in N.S.W.

Five Grades.

THE N.S.W. DEPARTMENT of Agriculture has amended the regulations under the Plant Diseases Act for the grading of Apples and Pears. The new regulations provide for five grades of Apples and Pears, namely "Special," "Standard," "Plain," "D," and "Factory."

"Special" Apples or Pears shall consist of Apples or Pears that are of one size and variety, of good color for that variety and having its characteristic shape, sound, free from disease, dust, dirt, excessive visible spray residue, broken skins, and other blemishes. Not more than 5 per cent. by number of the total number in a case may be affected by superficial blemishes such as hail-marks, limb-rubs, spray-scalds, and russetting due to spraying or abnormal condition of growth. None of the fruit shall be less than 2½ in. in diameter.

"Standard" Apples or Pears may include fruit slightly blemished by limb-rubs, black-spot fungus, caterpillars, and hail-marks, provided that such blemish does not exceed 10 per cent. by number in the case, and that the total area covered by such blemishes on any Apple or Pear does not exceed the area contained in a circle having a diameter of ½ in.

Russetting of the surface shall not be deemed to be a blemish if the skin be unbroken. None of the fruit shall be less than 2½ in. in diameter, except when the fruit is of a normally small variety, when none of the fruit shall be less than 2 in. in diameter.

"Plain" Apples or Pears may include fruit slightly blemished by limb-rubs, black-spot fungus, caterpillars, and hail-marks, provided that the total area of those blemishes on any one fruit shall not exceed the area of a circle having a diameter of ½ in. The minimum diameter of fruit in this grade shall be 2 in. for Apples and 1½ in. for Pears.

"D" Apples or Pears may include blemished fruit, provided the total area of any blemishes on any one fruit shall not exceed the area of a circle having a diameter of 1 in. The minimum diameter of fruit in this grade shall be 2 in. for Apples and

1½ in. for Pears, except when the fruit is of a normally small variety, when the minimum diameter for Apples shall be 1½ in. and for Pears 1½ in.

"Factory" Apples or Pears must be free from decay and reasonably free from disease, but otherwise need not comply with the standards of the foregoing grades.

No person shall pack for sale or sell in any package any Apples or Pears that are not of one of the grades mentioned, and no person shall pack for sale or sell any Apples or Pears in any covering or package containing one-half bushel or over unless the covering or package be legibly marked on the end thereof in letters not less than ½ in. in height with the name and address of the person, firm, or corporation by whom or by which the fruit was packed;

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

the name of the variety; the name of the grade when "Special," "Standard," "Plain," or "D" grade, or the words "For Factory use only," when of "Factory" grade, and the number or size of fruit contained in the case. If the particulars are printed on a label pasted on the end of the covering or package, they may be in letters not less than ½ in. in height.

No person shall sell any "Factory" Apples or Pears except to a factory for manufacturing purposes.

VITICULTURE IN N.S.W.

Seasonal Report to End of August.

The rainfall has been insufficient to give the subsoil a soaking, and in consequence it will not be surprising

to see an irregular bursting.

Ploughing operations are well advanced in consequence of dry conditions and vineyards should be easy to keep clean and free from weeds later.

Fruit Crop Prospects.

Reports issued by the N.S.W. Department of Agriculture in August, are as follow:—

Apples.—There is every indication of a good crop of Apples in all the chief Apple growing districts of the State. The blossoming will be heavy, and with a favorable season, good crops are expected.

Pears.—Growers anticipate harvesting a heavy crop of Pears. The trees are well furnished with blossom buds and should conditions prove favorable to a good setting and the development of fruit, heavy crops should be gathered.

Peaches and Nectarines.—In some of the early districts early varieties of Peaches and Nectarines have blossomed well, but in some localities heavy frosts have prejudicially affected the setting. In the later districts there is every indication of good crops of Peaches and Nectarines.

Plums.—Early varieties of Plums in early districts have blossomed most profusely, but like the Peaches, have suffered damage to a more or less extent by frost.

Later varieties are well furnished with blossom buds, and if the season is favorable, good crops should be harvested.

Apricots.—The promise is for a light crop of this fruit. The bringing to maturity of a heavy crop last year under very dry conditions proved a severe strain upon the trees, consequently the show of blossom buds is very patchy.

Oranges.—Navel Oranges are still being forwarded, and for choice consignments a spirited demand exists and highly satisfactory prices are being obtained.

BATLOW PACKING HOUSE AND COOL STORES.

The report of the Batlow Packing House Rural Co-operative Society Ltd., for the year ending December 31, 1926, indicates considerable progress. During the year the Society handled for members approximately 76,000 cases of Apples and Pears, and satisfactory prices were realised. During the year a Sydney depot was opened for the sale of Apples held in cool store, and this was later extended, a building facing the city vegetable markets being rented in co-operation with the Gos-

ford Citrus Co-op. Packing House. A further progressive move was amalgamation with the Batlow Cool Stores, which it was considered would benefit both Societies and the district generally.

Selling of fruit has been carried out by the Society's own selling organisation under a system of seasonal pools. The principal demand seems to be for such varieties as Jonathan, Tasma, Delicious, and Granny Smith in Apples, and Williams, Coles, Packhams and Josephines in Pears.

Up to July of this year the Society has handled about 36,000 cases or approximately 40 per cent. of a normal turnover. Prices have been abnormally high, however. This season's output has been sold entirely through the growers' own organisation in the Sydney depot and country sales.

This year space for a further 20,000 cases is being added to the cool stores, which will make the capacity 45,000 to 50,000 bushel cases. This is believed to be the largest fruit stores in the State.

ORGANISATION OF THE FRUIT INDUSTRY.

Conference of N.S.W. Fruitgrowers' Federation.

THE FIRST GENERAL conference of the re-organised Fruitgrowers' Federation of New South Wales, was held in Sydney at the end of August, some 60 delegates representative of the six districts into which the State has been divided, attending. The conference was opened by the Minister for Agriculture (Hon. P. V. Stokes), who referred to the work being done by the Agricultural Department and the Government to assist growers in combating fruit pests and diseases.

New Constitution.

The provisional constitution was discussed at length, and several amendments were introduced. Motions to increase the number of District Councils to include Hawkesbury and the Murray Irrigation Area as separate districts were keenly debated, it being eventually decided to retain the clause as printed, providing for six District Councils representing the Irrigation Areas, Southern, Central Tablelands, Central Coast, Metropolitan, and Northern. A motion by Mr. J. Brann (Lavington), that the 12 members of the Board be appointed as representatives of districts and not of sections, was agreed to, each district conference electing two representatives annually. The objects of the Federation as published, and conditions of membership were agreed to after discussion, it being decided that the man-

ager for an absentee owner or company be classed as a bona fide fruit-grower on authority from his principal.

It was agreed that each District Council hold at least one conference annually before the general conference, proxy voting to be allowed for local organisations. Local organisations are entitled to representation on their District Councils on the basis of one delegate up to 500 acres of orchard (or part thereof) registered by the members of such local organisation, with one additional delegate for each additional 500 acres; two-thirds of the delegates to any annual conference to form a quorum.

Discussion on sectional Committees (into which delegates to General Conference are to be divided) was very keen, it being eventually decided to increase the number to nine, representing Citrus, pome, stone, Grape, Banana, dried, Cherry and berry, Passion Fruit and co-opera-

Northern District, where no Council Conference had yet been held. In this case it was decided to appoint one representative, the remaining appointment being deferred for three months to allow of the complete organisation of the district.

Election of Board.

On the motion of Mr. N. H. Case (Batlow), seconded by Mrs. G. M. B. Piddington (Running Stream), Brig-General J. Heane, C.B., C.M.G., D.S.O., was re-elected President for the ensuing year, glowing tributes being paid to his services. In thanking the Conference, General Heane referred to the able work of his colleagues in the past, pioneers of the industry like Messrs. Kirkness and Neal, who had done so much in the early days of organisation. Election of the Board resulted as follows:—Irrigation areas, Messrs. V. C. Williams (Griffith), F. Helson (Leeton); southern, Messrs. T. A. Tester (Young), H. V. Smith (Batlow); central tablelands, Messrs. H. S. Wark (Bathurst), A. U. Tonking (Orange); central coast, Messrs. R. Hill (Narara), T. C. Morrison (Gosford); metropolitan, Messrs. G. H. Wilson (Wilberforce), A. Dunstan (Sackville North); northern, Mr. W. W. Challis (Kentucky). Another member is to be appointed to the Board within three months to represent the northern district.

With the exception of Messrs. Wark and Wilson, these members are all new to the Executive.

Purposes of Expenditure.

That portion of the constitution defining the purposes for which money could be expended was agreed to as follows, without discussion:—

- (a) The establishment and maintenance of the registered office of the Federation.
- (b) The payment of salaries and travelling expenses of officers in the employ of the Federation.
- (c) To assist to finance District Councils.
- (d) The investigation, testing and opening up of new markets for the export of fruit.
- (e) The organisation of local fruit markets and the improvement of local fruit marketing conditions.
- (f) The defraying of expenses in connection with meetings of the Federation, and the Annual General Conference.
- (g) The conducting of advertising campaigns or other propaganda designed to increase the consumption of fruit.
- (h) For such other purposes as may be approved by the Board.

(Continued on p. 436.)

To Orchardists

Send for Prices of the

"Bave-U" Sprayer

to

E. ROBINSON

333 George St., SYDNEY

tive. The provision for a co-operative sectional Committee, allows three members, elected by affiliated co-operative organisations, having the same standing as delegates elected by District Council Conferences; each Sectional Committee to elect its own Chairman.

Clauses were agreed to providing that the Board at its first meeting should elect a President and two Vice-Presidents annually, members of the Board to be ex officio members of the annual conference and District Council Conference, the Board being empowered to fill vacancies on the Board from the district concerned. It was also agreed that the Board might elect from among its members an Executive Committee to attend to matters of urgency, such matters to be subject to ratification by the Board. For the current year only it was decided that the President should be elected by the Conference, district representatives to be appointed by the district delegates at Conference, with the exception of the

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS,
Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.

VICTORIA.

Melbourne.

Producers' Dist. Society, Western Market.
Cave, F., & Co., Melbourne.
Davis, J., Western Market.
Lister, G., Western Market.
Mills, A., & Sons, Western Markets.
Mills, J. B., & Co., Bank House, Bank Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L., Little Bourke.
Ross, J. W., Western Market.
Street.
Silbert, Sharp & Davies, Western Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J. D. Fraser, 325 Collins St., Melb.

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Comino Bros. Ltd., Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters,
at London.

Launceston.

Bender & Co. Pty. Ltd., 110 Elizabeth Street.

NEW ZEALAND.

Dunedin.

Co-operative Fruitgrowers' of Otago Ltd.

GREAT BRITAIN.

London.

M. Isaacs & Sons Ltd.
Margetson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Poupard, T. J., Covent Garden.
Ridley, Houlding & Co., Covent Garden.

Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Exchange.

Mill.

White & Son Ltd.

Coventry.

Boswell Bros. & Davis.

Manchester.

The Port of Manchester, rep., W. J. Wade, 8 Bridge Street, Sydney.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Asthelmer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hamburg.
Stuer, Aug., Fruchthof, Reuss J. B. Mills & Co., Bank House, Melbourne.
Timm & Gerstenkorn.

BRITISH MARKETS.

New Season American Apples.

Liverpool (17/8/27).

Messrs. J. C. Houghton & Co., Liverpool, reported early shipments of American barrel and box Apples, which met with a strong demand. The first Californian Gravenstein created a favorable impression, color in some instances being surprisingly good for so early in the season. They realised 16/- to 21/- per case; William Red and Wealthy, 12/- to 18/- per case.

Californian Bartlett Pears arrived in greater abundance and fully ripe, and having to be cleared quickly, prices dropped. Pears in fair condition, realised 15/- to 19/-, defective, 9/- to 13/6.

South African Oranges were of excellent quality; Californians were also good, and seem very popular. Prices realised were:—

South African (Box)—	96/126	150/176	200/288
Navel—			
Choice	14/- 16/9	18/6 20/-	18/3 20/-
Stand.	14/- 16/-	18/- 19/6	18/- 20/-
Seedling—			
Choice	13/- 15/-	15/3 17/-	14/6 17/-
Stand.	—	15/- 16/6	14/- 17/-
Californian Box	—	23/- 28/6	

AUSTRALIAN ORANGES.

London (31/8/27).

Mr. W. C. Angwin, Agent-General for West Australia, inspected the "Largs Bay's" shipment of West Australian Oranges at Covent Garden. The fruit was in variable condition, some showing considerable waste, 75 cases of which were auctioned at 12/- per case, best sorts selling privately at 15/- to 17/6. The Grape Fruit was too small and immature.

MURRAY RIVER ORANGES.

Experimental Shipments.

London (8/9/27).

A feature of the shipment by the steamer "Bendigo," of 240 cases of Murray River Oranges, is the fact that the majority was carried as ordinary cargo near a hot-water pipe, and that when the cases were opened the Oranges were apparently as good as if they had been in cold storage. With a view to testing the effect of the various wrappers some of the Oranges have been sent to the low temperature research station at Cambridge.

London (19/9/27).

The shipment of Oranges from Western Australia by the "Hobson's Bay" arrived in a somewhat wasty condition. The market is depressed owing to heavy supplies of South African fruit.

Prices realised for the "Hobson's Bay" shipment of Oranges from Western Australia are as follow:—
Navels, 8/6 to 9/6 a half-case; Valencias, 8/6 to 10/-.

AUSTRALASIAN MARKETS.

Western Australia.

Perth (10/9/27).

Apples, Rokewoods, prime, dumps, 9/- to 12/6 (special to 14/-); Granny Smiths, prime, dumps, 14/- to 18/- (special to 21/-); Cleos., prime, dumps, 10/- to 14/- (special to 16/3); Dunns, prime, dumps, 10/- to 14/- (special to 16/3); Yates, prime dumps, 12/- to 17/- (special to 20/-); small, from 5/-; Doughertys, 12/- to 15/- (special to 17/-); Rome Beauties, prime, dumps, 14/- to 14/6; Oranges, Navels, prime, dumps, 9/- to 14/- (special to 17/6); flats, 6/- to 9/- (special to 11/6); Common, flats, 3/- to 6/6 (some to 8/6); Lemons, flats, 2/- to 6/- (special to 7/6); Mandarins, prime flats, 8/- to 12/- (special to 13/-); others from 4/-; Cape Gooseberries, 7d. to 9d. per lb.

Tasmania.

Hobart (17/9/27).

Apples, Delicious, extra choice 18/-; choice, 15/6 to 16/6; S.T.P., choice, 12/6 to 13/4; fair, 10/6 to 11/6; soft and spotty, 5/6 to 9/-; S.P.M., fair, 9/-, 12/-; spotty, 5/- to 6/-; small, 3/6 to 5/6; Jonathans, poor, 5/- to 6/-; Democrats, spotty, 8/- to 10/3; soft, spotty and small Apples of different varieties, 3/- to 4/6 case.

Queensland.

Brisbane (17/9/27).

Local Fruit.—Lemons, prime, 3/- to 5/-, others 2/- to 3/-; Limes, 2/- to 4/-; Pineapples, smooth leaf, 7/- to 10/- a case, 1/6 to 6/- a doz.; rough, 1/6 to 6/-; 8/- to 10/- a case; Passion Fruit, 9/- to 14/-; Papaws, 3/- to 9/-; Mandarins, 8/- to 24/-; Custard Apples, 4/- to 6/-; Oranges, 7/- to 17/-; Navel Oranges, 14/- to 20/-; Strawberries, 6/- to 14/- a doz. boxes; Gooseberries, 8d. to 10d. a quart.

South Australia.

Adelaide (17/9/27).

Apples, Jonathan, 18/- per case; Cleos., 18/-; eating, 18/- to 20/-;

cooking, 16/- to 18/-; Lemons, 12/-; Melons (pie), 5/- per cwt.; Almonds, 13/- to 14/- per doz. lb.; Oranges, 10/- to 11/- per case; blood, 12/- per case; Mandarin, 14/-; Navel, locals, 14/- to 15/-; Navel, 15/-; Poorman, 12/-; Passion Fruit, 44/-; Pineapples, 18/-. Fruit prices are without cases.

Victoria.

Melbourne (24/9/27).

Wholesale quotations are as follows:—Per case—Apples, dessert, 16/- to 20/-; cooking, 16/- to 18/-; Tas., 16/- to 20/-; Bananas, special, 30/-; choice, 22/- to 28/-; standard, 14/- to 18/-; Pineapples, Queen, 13/- to 16/-; Passion Fruit, 20/- to 36/-; Tomatoes, S.A., 30/- to 35/- half case; Lemons, 10/- to 14/-; Mandarins, N.S.W., 10/- to 18/-; special, to 20/-; small, from 7/- to 10/-; Oranges, Vic., 12/- to 15/-; N.S.W., 10/- to 11/-; Navels, Vic., 12/- to 19/-; S.A., 15/- to 20/-.

New Zealand.

Dunedin (16/9/27).

Messrs. Reilly's, Central Produce Mart Ltd., report:—Supplies of Citrus fruit are short of requirements, Berri Navels realised 22/6 to 25/-; Queensland Pines, 27/-; Passions, 24/-; Mandarins, special, 22/6; superior, 16/-; N.S.W. Lemons, 24/6; Adelaide's, 26/-, 28/-; American Valencia Oranges, 45/-; Mission Brand Lemons, 60/-; Grape Fruit, 38/-; Delicious Apples, special quality, 18/-; Doughertys, 15/-; Sturmers, 12/6, 14/-; Pears, choice Winter Nelis, 18/-; Rhubarb is realising 7d. to 9d. per lb.; Lettuce, 7/6 per doz.; Cauliflowers, to 8/-.

V.C.C.A. MARKET REPORT.

The Victorian Central Citrus Association supplies the following report of the Melbourne Market for the week ending September 23.

Past weeks values for all classes of Citrus fruits constituted a record. This is attributable to the high tone of the New South Wales market and good weather conditions.

Although there is a slight improvement in the Lemon market, there is no rush in the trade.

Mandarins are still holding their own. Many lines of these are arriving on the dry side, and are being sold at values far below those which are being paid for choice lines. Common Oranges are selling well.

Prices.—Navel Oranges—A district, special, 14/- to 19/-; B district, special, 12/- to 17/-; C district, special, 10/- to 15/-; standard, 1/- lower; Common Oranges, best Vic-

toria, 12/- to 15/-; Mandarins, best large, 18/- to 20/-; small to medium, 9/- to 15/-; Lemons, 10/- to 12/-; few extra, to 14/-.

AUSTRALASIAN APPLES IN GERMANY.

Season 1927.

Messrs. Ph. Astheimer & Sohn, Hamburg, report as follows:—

Arrivals for the season totalled 210,449 cases Apples, and 6,092 Pears, direct shipments from Tasmania and Western Australia; from Great Britain, 21,585 cases Apples; total quantities, 232,034 cases Apples, 6,092 cases Pears.

Ship Your Oranges, Lemons, Grapes to New Zealand



All consignments for this market will have careful attention and realize highest prices if sent to

The Co-operative Fruitgrowers of Otago Limited, Dunedin

Personal supervision of every consignment.

Cheques posted promptly.
Drop us a Line or Cable
"Peachbloom," Dunedin.

Apples.

Contrary to previous seasons (when arrivals of American Apples had been finished before the season for Australasian Apples opened), American Apples continued to arrive during month of May to the extent of 96,374 cases, while during June 29,840 cases arrived. In spite of this competition, demand for Australasian Apples was always very active from the first until the last arrival (April 25 to June 14), and prices realised, we feel sure, will always have been very satisfactory to shippers.

All arrivals originated this season from Western Australia and Tasmania, while Victoria and South-Australia owing to crop failures did not ship any fruit to this market. We, however, trust next season these States will again have an opportunity to make good use of our market.

Pears.

Very high prices were paid for the small quantities when arriving in sound condition.

Prospects for Next Season.

Apples.

Considering our market having taken this season 232,034 cases of Australasian Apples, and also during month of May and June, 126,214 cases of American Apples, all of which realised very good prices, against 248,458 cases Australasian Apples and no American Apples during May and June of last season, we feel quite sure our market will be ready to take increased quantities of Australasian Apples next season at prices satisfactory to shippers.

The demand for fruit, and especially Australasian Apples, is steadily increasing, and with a large outlet to interior points on our Continent, we will be able to steadily increase consumption.

We are glad to say our predictions for the last four seasons have been at the end of each season in every way fulfilled, and we should be glad if Australian Apple shippers would start to make preparations for increased direct shipments as early as possible. Shippers should not rely upon making shipments via Great Britain, on account of Apples suffering too much from handling and re-shipping. Everyone interested in the trade should make every effort to land Australasian Apples in as good condition as possible, which would greatly increase consumption, while fruit arriving in poor quality or bad condition means a decrease of consumption.

Pears.

Imports of Pears could in our opinion be increased to about 15,000 to 20,000 cases, for which good prices could be realised, especially if arriving during April or early May before warm weather might set in with us.

DRIED FRUIT SALES.

The Chairman of the Commonwealth Dried Fruits Control Board (Mr. W. C. F. Thomas) advises that the sales of Australian dried fruits in Great Britain recorded with the London agency of the Board for the week ending September 15 represented:—Sultanas, 2,429 tons at an average price of £57/4/10 a ton; Currants, 10 tons, £41/11/7 a ton; Lexias, 618 tons, £42/10/7 a ton.

These sales constitute a record for any weekly period since the London agency of the Board was established.

It is interesting to note that the cash value of this one week's sales is £165,700.

The total realisations to date of this season's fruit in Great Britain are:—Sultanas, 8,191 tons, at an average price of £58/5/- a ton; Currants, 4,706 tons, £42/7/9 a ton; Lexias, 1,520 tons, £44/0/3.

Victoria

Seasonal Reports and Prospects Current Notes.
Hardwood for Fruit Cases.

VICTORIAN SEASONAL REPORT.

To End of August, 1927.

Fruit, Except Vines and Citrus.

The Superintendent of Horticulture reports:—

Favourable reports have been received from all districts respecting the coming season's fruit crop.

Apples, Pears, Peaches, Plums and Small Fruits look well for a good crop.

Almonds are blooming profusely, and the setting depends entirely on the weather.

Apricots have greatly improved in appearance since last month's report, and the prospects of a normal crop are bright.

Passion Vines have been badly frosted in low-lying localities, and the

soil, and especially the sub-soil, "take the water." Sub-soiling between the vine rows has been carried out in a good many cases. The results should prove interesting.

Swabbing of Sultanas is receiving attention, though not so generally as is desirable.

Traces of Black Spot were plentiful last year, and a wet spring would mean widespread infection in the absence of preventive treatment.

Pruning is generally well advanced, and ploughing somewhat less so. The merits of early, deep winter ploughing cannot be too often stressed. Dry conditions have hindered the growth of cover crops, for the utilisation of which the season has not been propitious.

Plantation of resistant vineyards is on the increase, especially in the wine districts; applications for 1928 planting season exceed 60,000 grafted rootlings, or double the orders for the present season.

Citrus.

There has been no rain of an appreciable character during the month, and irrigation has been practised in many districts, owing to the noticeable decrease in soil moisture. As the blossoming period is fast approaching, irrigation is of the utmost importance. There have been fairly heavy frosts in many districts during the past two weeks, and many trees in exposed positions have suffered damage to the young spring shoots. Many growers have profited by the advice given by the Department about two months ago regarding the necessity for a winter irrigation in areas where frosts had injured the growths of the tree, and dried out the Oranges. Trees that have been irrigated are showing a decidedly better color, and the fruit is gaining in quality, both as to sugar and juice content.

VICTORIAN FRUIT EXPORTS.

During August, Victoria exported 15,856 cases of canned Peaches, 45,716 lbs. of Currants, and 373,988 lbs. of Lexias.

This information is contained in an official statement issued by the Minister for Markets (Mr. Paterson), showing the exports from Australia for the month.

Among other leading exports from this State were:—Sultanas, 1,134,660 lbs.; honey, 2,433 lbs.; wine (still), 146,053 gallons.

THE SEASON'S PROSPECTS.

Notes from Geelong.

Orchards are well cleaned up and well cultivated, and look at their best as regards cultivation. Most varieties have bloomed or are in full bloom, and look well. So far we have had good weather for the blooming season.

Apples promise exceptionally well. Apricots promised a record crop, but when in full bloom shed the greater part of their blossom, and now there remains only a medium setting. With Peaches the early varieties are light, but later varieties are setting well. Pears are blooming well, especially Williams and Packhams. Plums of all varieties are flowering freely, also Quinces and Cherries.

Growers are taking advantage of the fine weather to spray for the Black Spot and Shot Hole, with lime sulphur and Bordeaux. Pumps can be heard in all directions.

Several growers intend changing over from paste to powdered sprays,

F. W. Vear

Fruit & Vegetable Salesman

Commission Agent

WESTERN MARKET
MELBOURNE, VIC.

Highest Market Rates Assured

Prompt Settlements

and it will be interesting to note results.

So far the district seems fairly clear of diseases and pests. Woolly aphis has not made its appearance as yet, and Peach aphis is not so bad as in former years; but curl leaf in Peaches is beginning to show up a little. Orchards are sadly in need of rain; and fears are expressed amongst the growers, if it does not rain soon that much of the fruit prospects will not be fulfilled, the small fruit will drop just after it has formed, as was the case last year.

The principal fruits grown are Apricots, Apples, Pears, Plums, a few Peaches and Cherries. Berry fruits are not largely grown except Gooseberries.

COVENT GARDEN,
LONDON

Ridley, Houlding

& CO.,

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt

account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

yield for the coming season's crop will be, in consequence, appreciably affected.

Good soaking rains have fallen in some districts, particularly in the North-East. These rains were very welcome, as the sub-soil in these districts was in need of moisture.

Viticulture.

The outstanding feature of the present winter is its dryness. In most districts the rainfall is much behind the average. In districts where irrigation is not practised, a restricted bud burst is probable in consequence. In irrigated areas Nature's deficiency can be supplemented artificially, and the first watering is now being given. The sub-soil at a depth of a couple of feet was very dry. In some classes of land the problem is to make the

Several vineyards promise well, and at this year's Royal Show, the Champion Wine exhibit was staged by a local firm (Chas. Cole & Co.), the product of two local vineyards. This speaks volumes for the Grapes grown in the Geelong district. Several first and second prizes were also secured in both red and white wine from the same growers. This industry should be taken up in a far larger scale, as there is an unlimited demand for the Grape product of this district.

Growers appreciate the wireless talks by Officers of the Department of Agriculture, and wish to thank Mr. Ward and other officers, and trust more of these talks will be given.—E. Weitnauer, Batesford.

RESEARCH INTO FRUITGROWING PROBLEMS.

Experimental Orchard to be Established.

Following representations from fruitgrowers for a number of years past, there is every prospect of a Research Orchard being established in Victoria to investigate problems of fruit growing. A comprehensive programme of work has been drawn up, and the researches will cover an investigation of the best stocks for all classes of fruit, fruit-breeding (including selection of the best strains from the types and varieties now grown in Victoria; introduction of new varieties from abroad, and systematic trial under our conditions; cross-breeding among the varieties we have with a view to combining in one variety the good points of two or more, or the elimination of unfavorable characteristics from types otherwise desirable), selection of buds, manuring, pruning, pollination, irrigation and drainage, and entomological and pathological investigations.

A laboratory will be attached to the Research Orchard, and scientifically trained staff will control the investigations. Much good should result from this forward move.

DRIED FRUIT BOUNTIES.

A deputation of dried fruit growers waited on the Minister for Markets and Migration, (Hon. T. Paterson) during September, to ask that the Government should guarantee Australian prices for all dried fruits sold overseas. In reply the Minister stated that the deputation was asking an economic impossibility. The Government was willing to assist exporting industries by means of bounties, but such were necessarily of a temporary nature.

FIGHTING INSECT PESTS IN THE ORCHARD.

Citrus Thrips.

These are small, pale yellow insects less than one-thirtieth inch long, working in blossoms and on leaves and fruit. They are usually numerous during the warm weather. When young oranges and lemons are badly infested the skin of the fruit becomes a silvery color. At times they are very destructive to blossoms.

Spray with nicotine sulphate or black-leaf 40 or benzole emulsion 1 in 5.

Rutherglen Bug.

These small greyish-coloured bugs are now making their appearance. They are very active insects, and have a habit of dropping or flying to the ground when disturbed from plants on which they are resting. Like all plant bugs they are furnished with a rostrum or beak, with which to suck the sap from the plants, which causes them to wither and die.

Spray with phenyle. This is prepared as follows:—

- 1 quart phenyle,
- 3lbs. washing soda,
- 1 bar yellow soap,
- 40 gallons of water.

Caterpillars in Oranges.

Caterpillars of Light-brown Apple Moth are now appearing in Citrus orchards, and are doing some damage to oranges. The caterpillars are small, greenish in color, and very active. On being disturbed they usually drop to the ground. Spray with arsenate of lead 1 in 25.

Red Spider and Bryobia Mites.

These destructive mites are now very plentiful on Apple and other fruit trees. The underside of the leaves should be thoroughly sprayed with nicotine sulphate or black-leaf 40.

Pear and Cherry Slug.

These insects will now be making their appearance. Spray with arsen-

ate of lead when leaves have developed.

Black Peach Aphis.

These insects are exceedingly numerous at present on the young shoots of Peach trees. The insects are shiny black.

Spray with nicotine sulphate or black-leaf 40.

Looper Caterpillars.

During the first warm weather looper caterpillars often make their appearance in orchards, and cause a fair amount of damage to the young fruit. The caterpillars when walking have a habit of arching their body. Spray with arsenate of lead 1 in 25.

The Cherry Green Beetle.

In some localities these insects cause great havoc to the leaves of Apple, Cherry and other fruit trees. They completely eat the epidermis off the leaves. The trees then look as if a fire had scorched them.

Spray with arsenate of lead 1 in 25.

Black Cherry Aphis.

A very destructive insect, small, black, shiny, appearing in spring and early summer, and causing severe curling of the leaves. It is probably the worst insect pest of the Cherry, and has been known to kill trees outright.

The nicotine sulphate or black-leaf 40 sprays will give excellent results.

Painted Apple Moth.

This is one of the most destructive insect pests of fruit and fruit trees. The caterpillars are clothed with long tufts of hairs, and measure, when fully grown, about 1½ in. in length. Along the centre of the back are thick, erect tufts, marked with yellow. The female moths are destitute of wings. The male moth measures an inch across its outspread wings, of which the fore pair are dark brown. The hind wings are bright orange yellow. Spray with arsenate of lead.

PREVENTS:—

CURL-LEAF

BLACK-SPOT

SHOT-HOLE

MILDEW



Don't Bother
mixing
Bluestone & Lime
when this is
JUST as GOOD
JUST as CHEAP
and
Much Quicker

Sole agents for Victoria:

LAWFORD'S FRUIT EXCHANGE PTY. LTD. DONCASTER

Pear Root Aphid.

These insects are becoming very numerous in Pear orchards in Gippsland, Shepparton and other places. It is a small dark aphid covered with white cottony material and greatly resembling the woolly aphid, but attacks only the Pear roots.

Use Paradichlor benzene (P.D.B.), 2 ozs. per tree. Remove the soil around the tree and sprinkle this chemical around roots, cover over with soil and stamp it well down.

Woolly Aphids, or American Blight.

Now is the time to introduce the woolly aphid parasite (*Aphelinus mali*) into orchards that are affected by these destructive insects. The Government Entomologist, or the Agricultural Department's Orchard Supervisors should be written to for specimens of this parasite.

Codlin Moth and Thrips.

See "Fruit World" for September 1.

(Continued from p. 431.)

In regard to organisation, it was decided that the money set aside for this purpose be expended in assisting District Councils only. In reply to a question, the Secretary (Mr. E. E. Herrod), stated that the money received from the Government totalled £2,600, out of a total sum collected of about £4,300. An estimate of expenditure had been submitted to the Minister for approval, allocating this amount under various headings, and including a sum of £200 for organisation.

General Business.

Railway matters were discussed, and representatives of the Railway Commissioners promised to give attention to the questions brought up.

The unsatisfactory conditions at the present Sydney fruit markets were discussed, and it was decided

that representatives of the Executive, the City Council, and the consumers, confer to consider matters affecting the sale of fruit and the control of used cases.

It was decided to form a separate Association to deal with industrial arbitration matters.

A recommendation from the Central Coast Council that all nurserymen be registered and be subject to Government supervision, was referred to the new Board.

On the motion of Mr. A. O. Browne (Martinsville), it was decided to ask the Government to investigate the possibilities of using poison gas against the flying fox pest, which was seriously menacing the fruit industry in some districts. Conference agreed to ask the Government to amend the Plant Diseases Act so as to compel growers to collect, remove and destroy all fallen Citrus fruits in orchards infected with fruit fly, at intervals not exceeding seven days in the months of June, July and August, and every three days during the rest of the year.

In view of the increase of opossums and the damage they caused to orchards, it was decided to ask for open seasons in such districts as made application.

A request that the Government increase the minimum fee for orchard registration to 2/6 instead of 1/-, as at present, was agreed to without debate, such regulation to apply wherever there were fruit trees on a property.

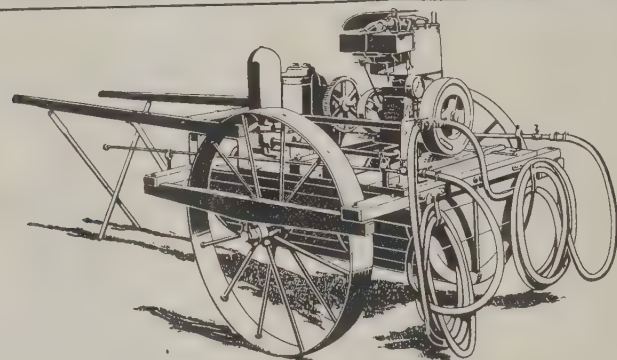
On the motion of Mr. Tonking (Orange), it was decided to ask the Government to conduct manurial experiments in different districts over a period of years.

It was resolved, on the motion of Mr. H. G. Such, to bring under the notice of the Commonwealth authorities the question of prohibiting importations of American Citrus fruit, owing to the presence of white fly in California.

Appreciation of the services of Mr. W. J. Allen, who was retiring from control of the fruit section of the Department of Agriculture, was expressed by General Heane and other delegates, who spoke in high terms of Mr. Allen's work. A cordial vote of appreciation was carried, which was responded to by Mr. Allen.

COOL STORE EXTENSIONS.

The management of the Hastings and District Co-operative Cool Stores proposes to enlarge the storage space by 40,000 cases, and has applied to the Government for an advance of \$4,000 for this purpose. The Minister for Agriculture promised to recommend the application.



The New

RONALDSON-TIPPETT

SPRAYING PLANT

The new "Ronaldson-Tippett" Spraying Plant has set a new standard in Spraying Equipment. Every detail of design, material, construction, and workmanship has been considered in making the type of Spraying Plant the Orchardist has long waited for. Behind this new Spraying Plant is the service of a firm whose reputation for superior machinery and business-like methods is known and appreciated throughout Australia.

Write now for Prices and Full Particulars.
We can give Immediate Delivery.

RONALDSON-TIPPETT

156 CRESWICK RD., BALLARAT.
And at Melbourne and Adelaide.

These Features are Important

"Ronaldson-Tippett" Vertical Petrol Engine developing 2 horse power.

Self-oiling Double Plunger Pump has all working parts completely enclosed and running in oil.

Long-life Pump without stuffing boxes, or stuffing box troubles.

Permanently Porcelain-lined Cylinders that practically never wear out.

Travelling Wheels independently supported by a double framework, relieving the vat of all strains.

Pressure Regulating Valve relieves strain from the Engine when not pumping.

Improved System of weight equalisation.

Eighty-Eight Gallon Vat made specially strong from selected timber.

Low Hang Transport, with ample ground clearance.

For Your Spraying

You should make use of this popular Auto-Spray Pump

For spraying trees, shrubs, vines, field crops, green houses and poultry houses, and for applying Paris green, arsenate of lead, Bordeaux, lime and sulphur emulsions, disinfectants, cattle-fly oil, whitewash, cold water paints, etc., the Auto-Spray Pump No. 1 is being widely used. Scores of thousands are in use, and its popularity is growing every day.



CONSTRUCTION

The entire machine is made without screws or bolts, and no tools of any kind are required to take it apart. The valves and washers resist oil and other solutions that attack rubber.

Diameter 7 in., height 2ft., capacity 3½ gal. weight empty 9lb., loaded 36lb.

A brass air pump is located inside the solution tank protected from injury.

Special Features: Strength, simplicity, and balanced construction, a nozzle which does not and cannot clog, an

automatic shut-off device which saves the solution and operates without fatigue, spreader to prevent wrinkling leather cup, iron parts malleable, and hose of extra quality.

The whole outfit is a high-class product, and is built for solid service. **55/-**

Other Useful Types

"Success" Pattern Spray Pump, English Make. Will throw a constant stream without rapid pumping. Supplied with 3ft. hose and one Bordeaux patent nozzle. Is capable of giving a solid jet or the finest spray. Price 30/-.

Auto-Spray No. 5. Being made entirely of brass, it is corrosion-proof. Double acting pump gives continuous spray. Liquid is carried in knapsack on back, leaving hands free. Price complete 55/-. Pump only, 25/-.

Auto-Spray No. 26, for small garden greenhouses, etc., only 8/6 each.

Write for Our Free General Catalogue

McPherson's
Proprietary Limited

582 Collins Street, MELBOURNE.

51-65 Bathurst Street, SYDNEY.

116-130 Waymouth Street, ADELAIDE.

(Continued from page 407)

my trip north for the pleasure of meeting him, but he had his itinerary planned, and so to our mutual regret we could not meet. Mr. Ranger's visit was being awaited with much interest by those interested in the fruit industry in California.

Mr. Val Kerr, of Mitcham and Tyabb, also Mr. J. M. Ward, are kindly remembered by Mr. Mackie, the very able entomologist of the California Department of Agriculture. Some of the fruitgrowers at Hood River also spoke kindly of Mr. Val Kerr and his New Zealand companion, Mr. Vaughan.

At the University Experiment Station, Davis, California, the principal (Dr. Howard) spoke in terms of the highest appreciation of the Australian soldiers who studied agriculture there after the war. I am constantly running across the trails of these and others from Australia and New Zealand, and it is a pleasure to hear of the appreciation in which all are held.

QUESTION OF DUTY ON SYNTHETIC NITROGENOUS FERTILIZERS.

Synthetic Nitrogenous Fertilizers are attracting the attention of agriculturists all over the civilised world. Agricultural Departments, Agricultural Schools, and various organisations in Great Britain, Germany, and the United States have been conducting most interesting experiments in the application of these manures for various agricultural and horticultural purposes.

Victorian farmers generally, and particularly those engaged in intense culture, know the value of nitrogenous manures to increase the fertility of the soil and to enormously increase production.

As a result mainly of the successful extraction of nitrogen from the air, the price of this vital Plant Food in Europe has dropped to 10/- per 1 per cent. per ton. Prices in Australia, where the new industry is not established, and where primary production in some quarters always appears to be of secondary importance, range from 16/6 to 22/6 per 1 per cent. per ton.

The position regarding the importation of manures has been clearly stated by the Tariff Act. A duty has been imposed against imported manures when similar ones are made in this country, whilst all other manures are admitted free.

One of these new manures is a Nitro-Phosphatic manure and the other an entirely new and most effective form of Nitrogen, and they are quite clearly manures not elsewhere included in the Tariff.

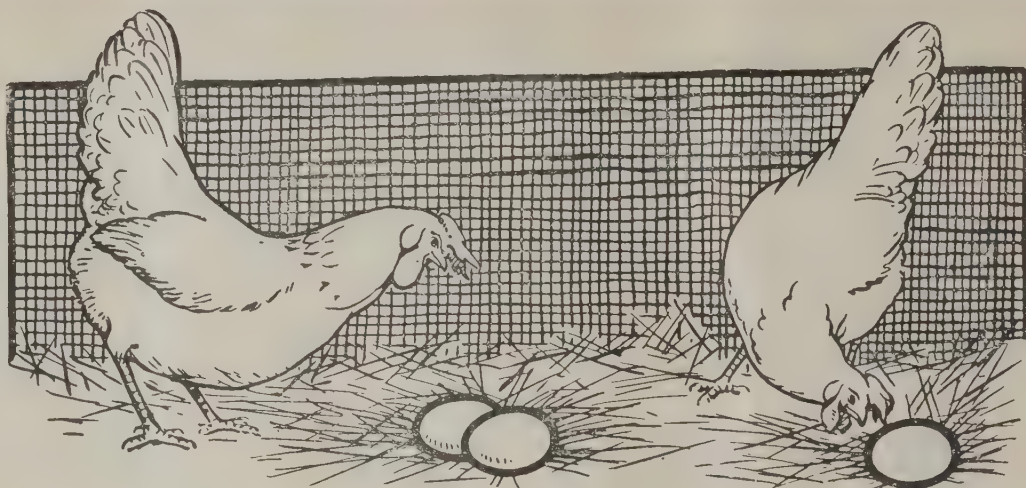
It might have been expected, therefore, that such manures (not manufactured in Australia) would have been welcomed as a blessing and a boon to help in increasing our primary production. It might have been expected that the Minister for Customs would have even recommended a bonus to growers or importers instead of placing an unwarranted interpretation on the Act, and insisting on the payment of duties. The placing of a duty on the importation of manures, even if made in Australia, is bad enough; but it amounts to little less than an outrage to strain the Act of Parliament to impose a duty on these fertilisers that are not made here. Whether in the interests of primary production to get cheap netting, cheap machinery, or cheap manure, the Minister for Customs appears always ready to increase the cost by imposing customs duties.

Any duty that is placed on these new manures is a direct obstacle in the way of the promotion of intense culture in this country which should be the ideal aimed at by every individual who has the country's development at heart.

(Signed) WM. F. GATES,

Town and Country Union,

Secretary.



“Karswood” a sure aid to egg-production

TIME and time again, we receive proof of the above statement, from satisfied users of Karswood Poultry Spice.

Whether in the heat of summer, the cold of winter, or in between seasons as at present, “Karswood” has definitely proved its ability to make hens lay. This is not because it contains any “forcing” ingredients—“Karswood” does not force—but, by reason of the fact that it contains dried and ground insects, (insects being the greatest known source of assimilable phosphorous) Karswood induces the fowls to lay naturally. Not only that, but it

also builds up the fowl’s nervous system in such a way that sustained and regular egg-laying over a much longer period is made possible.

Wouldn’t you like your fowls to lay more regularly? Of course you would. Well then feed them with Karswood Poultry Spice, and, provided they are not more than three years old, they will continue to lay well into the summer.

To satisfy yourself of these claims, at least give “Karswood” a trial—the cost is so small; 1/- packet being sufficient for 20 hens for 16 days.

“No One Ever Gave It Up.”

Dear Sir,

In reply to yours of the 24th, you are free to use mine of the 20th as a testimonial, though “Karswood” deserves a better “Boost” than I can supply.

I induced several people to acquire the “Karswood” habit; they also passed it on to others, and no one ever gave it up after a trial.

My experience in breeding shows stronger chickens hatched when the foundation stock are “Karswood” birds. It brings hens through the moult in better condition.

“Karswood” produces an atmosphere of “Contented Brightness in the Fowlyard”—

how is that for a slogan for you. It is true, every bit.

(Sgd.) MISS M. SHORT,
North Manly.

Note the Economy.

1/- packet supplies 20 hens for 16 days.
2/- packet supplies 20 hens for 32 days.
13/- (7lb. tin) supplies 140 hens for 32 days.

Supplies.

Karswood Poultry Spice is obtainable at all wholesalers and stores at the following standard retail prices:— $\frac{1}{4}$ lb. packet, price 1/-; 1lb. packet, price 2/-; 7lb. tin, 13/-; 14lb. tin, 25/-; 28lb. tin, price 48/-.



CHICKEN REARING.

(By W. C. Rugg, Chief Poultry Expert, in the "Journal of Agriculture," Victoria.)

NOTHING is more necessary for success in poultry farming than a knowledge of the best methods of rearing chickens. This applies particularly to the man who is engaged in producing eggs for market.

Laying hens can be compared to most classes of fast-running machinery, which, if kept continuously in operation have a comparatively short life. The owner must replace them frequently, or go out of business. Most poultrymen find it necessary to replace 25 to 75 per cent. of their flocks each year. For this reason, on most farms, chicken rearing has to be carried out annually, to a greater or lesser degree.

There is an old saying, and a very true one, that "A chicken well hatched is half reared." The chicken well hatched is the chicken that arrives on time, that is, on the evening of the 20th day of incubation, or on the morning of the 21st, which leaves the shell clean, and in an hour is a beautiful ball of fluff. In a little while it should be bright and active and ready to pick at anything and everything within reach, from the fractured walls of its late residence to the glass panel in the front of the incubator.

To get chickens of this description, we must breed from vigorous parents, of strong constitution, which are in the right condition to breed from when the eggs are laid. This is a matter of supreme importance, yet some poultrymen do not give it any consideration at all. They seem to think that so long as a chick hatches out, it should be as good as any other chicken. Nothing is further from the truth.

It is a well-known fact amongst experienced breeders that the best and strongest chickens are always bred from the first 20 to 30 eggs laid by a hen directly after she moults. During her moult the hen ceases to

lay, and her reproductive organs have a complete rest. When she comes into lay again, she is in the best physical condition to produce eggs that contain strong germs. These, if incubated under proper conditions, will produce strong livable chicks, which in turn, if brooded in clean, sanitary quarters, supplied with a variety of nourishing foods, and given as much exercise as possible on fresh, clean ground, will develop into efficient machines for the converting of grain, etc., into that highly nutritious commercial product—new-laid eggs.

To get pullets that will show the greatest profits, the chicks should be hatched during the months of July, August, and September. As a general rule, chickens hatched after this are not so strong; they take longer to mature and, with regard to pullets, generally lay smaller eggs.

The Birds from Which to Breed.

If poultry farmers would select their breeders from hens that have been hatched early, they would be surprised at the increase in size of their stock in a year or two, and in the size of the eggs laid by them. If a poultryman is to have a successful chicken season he must be prepared to cull, and to cull hard. Starting with the breeding stock, he should cull out all the birds that are not healthy and vigorous, and of standard size for the breed. Remember that in utility breeds the danger of small eggs increases with every ounce the birds are under the standard weight for the breed. All birds that have not moulted should be put out of the breeding pen until they have grown their new feathers. The breeder should cull out also birds that that have moulted too early—that is, November and December—since these are likely to reproduce early moulters, which are not profitable.

Birds that have moulted in the late autumn and commenced to lay at the end of June and the beginning of July are the kind required in the breeding pen. Next, the eggs that have been saved for the incubators should be culled. All that are uneven in shape, poor in texture of shell,

under 2 oz. in weight, abnormally large, or dirty in shell, should be kept out of the incubators. Then again, culling should be done at hatching time. Any chick that is not good and strong when hatched should be destroyed. Weaklings should never be allowed to reach the brooders; they are a menace to the rest, and will only occupy space that is needed for the strong, healthy ones. Finally, culling should be done right through the rearing period, any chicken that is slow in developing, or showing signs of weakness of any kind, being disposed of at once.

It is surprising to find so many poultrymen who will cull out a weak or slow-growing cockerel without the slightest hesitation, yet will not destroy a miserable weak pullet. Apparently they console themselves with the thought that, because it is a pullet, some day it will lay eggs and perhaps pay for its keep. This is a dangerous mistake. These weak pullets should be culled just as ruthlessly as the weak cockerels, for they may become a danger to the whole flock. They are usually the first to contract disease, or catch cold; frequently they develop catarrh, which often ends in an outbreak of chicken-pox or perhaps roup, leading to a falling off in the egg production of the flock just at the time of high prices. All these entail a heavy financial loss and a decrease in the general health and vitality of the whole flock.

Experienced breeders are fully aware of this danger, but people with little experience often start the breeding season with the idea of rearing a stated number of pullets of any sort, so long as they are pullets. The sooner they realise that it is the quality of the stock they rear, and not the number, that decides their profit the better it will be for themselves and Victoria's poultry industry.

It is very probable that, in the near future, prices for poultry products will be lower. Poultrymen must make every effort to meet this position by rigid culling. By so doing they will improve the quality of their stock, and increase their production. If this be followed up by better marketing methods, local consumption will be considerably stimulated.

Care of the Young Chick.

From the time the eggs start to chip, it is a good plan to hang a curtain in front of the incubator to exclude the light. Most incubators have a glass door in the front, and the first chickens to hatch will scramble over the top of any eggs between them and the light. If some of these eggs have just chipped, and

Are You Preparing

"To Choose the Best is Wisdom."

for the coming Fruit Season?

Your Fruit will soon be ready for market.

There is only One Way you can obtain the Best Prices for your Fruit, by putting it up AT A MINIMUM OF EXPENSE in an Attractive Manner to COMPEL PEOPLE TO BUY.

You cannot do this without a "LIGHTNING" Fruit Grader, which will do the work of four men, thereby saving you Needless Wages, and giving you results impossible for men to arrive at, viz.:—

Evenly Graded Fruit, which is more Quickly Packed at a SMALLER COST.

You want The "Lightning" Fruit Grader the Best!
is the Best and the Machine to Save you the most Money
CANNOT BRUISE THE FRUIT.

Catalogue on Request.

Order Early to Ensure Prompt Delivery.

Fruit Well Graded is Half Sold.

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

the eggs get turned over with the chipped side down, there is a great danger of the chickens being smothered before they can struggle out.

I do not believe in allowing chickens to drop down into the nursery tray until the hatch is over. In a great many machines the difference in the temperature on the egg tray and that in the nursery tray about 3 inches below is too great, and the baby chicks that fall down there before they are thoroughly dry often get a chill, which is a bad start in life.

It is far better not to open the door of the incubator after the evening of the 18th day until the hatch is over on the night of the twenty-first day or morning of the twenty-second. Then the chicks can be topunched, and put into the nursery tray, to remain there for 24 hours before they are removed to the brooder.

Some poultrymen declare that this is waste time, as they want to get the machine filled up again. That can be overcome by having warm, well-ventilated boxes into which to put the chicks. Day-old chick despatch boxes, if lined with straw, will do, providing they are kept in the incubator room. Whatever is done, it should be remembered that chickens require at least 24 hours' complete rest after hatching. In my

opinion, this is the very best start they can be given. Warmth and rest are all they want. By adopting this method, there will not be any danger of their being fed too soon, so that the yolk gets a chance of being absorbed. When they are taken to the brooders, they bounce out strong, and ready for what the new world has to offer in the way of food.

The correct temperature of the brooder is a matter of opinion. I am sure more chickens are killed each year by too much heat rather than by too little. I have been most successful with a temperature in the brooder of 85 degrees in cold weather, and not lower than 80 degrees, that is, on the litter on the floor of the brooder when it is empty. If, the chicks are watched closely, their behaviour is the safest guide. If, when resting, they are nicely spread out, you can be sure the temperature is right, but it is well to remember that chicks will crowd or huddle when too hot as well as when too cold.

One of the chief reasons for failure in rearing chicks in brooders is bad ventilation. It should be recollected that the respiration of chickens is much faster than in man. As the chickens have no sweat glands, much of the liquid intake is given off through their respiratory organs, so the air exhaled

from the lungs is heavily charged with moisture. This accounts for the high humidity found in badly ventilated brooders, and is often the cause of chickens crowding together, and sometimes smothering. These chickens are generally referred to as sweated. To obviate this danger, it is necessary to ensure good ventilation without draughts, and the constant circulation of air to eliminate moisture.

The next most important thing to remember with chickens is that they require no feed for from 48 to 56 hours after they are hatched. Many thousands of chickens die each year from faulty feeding, and a great many through being fed before the crop and gizzard are prepared to receive food. I find the best thing to give when they are from 48 to 56 hours old is a little coarse sand and fine charcoal. The grains of sand pass through to the tiny gizzard, which is then ready to help in the grinding of the food as it passes through from the crop. The charcoal helps to purify any gases that may have accumulated, and so puts the chick's digestive organs into good working order.

I believe in putting about 1 per cent. powdered charcoal into all chick foods for the first two or three weeks. After that, if granulated charcoal is made available to them, they will eat

as much as they require. Judging by samples of foods I have examined, many of the special chick feeds on the market are entirely unsuitable. Some of them contain seeds that it is impossible for small chickens to digest. Fortunately, we have in Melbourne a few firms who specialise in poultry foods, from whom good, safe chicken foods can be obtained. Many people mix their own, and I find the plainer the mixture the better.

Feeding.

The sooner chickens can be got out on the ground the better, and if the weather is too bad, it is a good plan to cut a sod of grass and place it in the brooder run every day. Chickens, even at three or four days old, get valuable exercise picking at the green shoots, and probably find many minute insects not seen by us, but which are very beneficial to them. Milk in some shape or form should be supplied to chicks from the time they are first fed. Separated milk is good. Where this is not available, dried buttermilk or dried skim milk can be purchased. Milk fed to chickens may be either sweet or sour, but it should always be given in the same condition. If fed sour one day and sweet the next, bowel troubles are likely to occur. Cod liver oil is recommended by some, but if chicks have plenty of sunlight, constant supplies of succulent green stuff, and plain, wholesome food, I doubt whether any benefit will be derived. In countries where the climate is not so good as ours, and where green stuff is hard to get, cod liver oil may be used to advantage. In too large quantities, however, it is likely to interfere with digestion.

Chickens should be continually shifted on to fresh ground, and even where the space is limited, much can be accomplished in this direction by using temporary hurdles, and not allowing the chickens to run over the whole area.

Minced raw onions can be given once a week from the time chickens are a week old. I know of no better tonic. I believe in having a plain, dry mash always before the growing pullets, and giving them a wet mash as well. With this method of feeding, their crops will be extended as much as possible. If this is not done when they are young, they will not be able to consume sufficient food to enable them to produce large numbers of eggs.

Cockerels should be separated from the pullets as soon as they can be identified. This will give the pullets more room. Pullets should be placed in their permanent laying quarters at about 16 weeks old. If left till they start laying, they may resent

the change, and go into a false moult.

To summarise, it may be pointed out that success in chicken raising depends, firstly, on sound breeding stock; secondly, on correct incubation and brooding; and, thirdly, on plain, wholesome food, plenty of direct sunlight, and clean ground.

SWARM CONTROL.

Swarm control used to be a very important matter for discussion at all bee meetings. However, in more recent years, it has been found that, under normal conditions, swarming can be prevented to a large degree by the simple addition of more room during the brood-rearing period in the spring, says an American writer.

If you have experienced continued difficulty with swarming, it must be because your bees did not have sufficient room during the spring period. A good practice to follow is to see that the bees have more room than they can use at all times. Normally, in the northern latitudes, each colony of bees of fair to good strength should have an extra brood-rearing chamber, about May 1 (November 1 in Australia). If you are using modified Dadant

or Jumbo hives, it should not be necessary to give additional brooding space. On the other hand, if you are using eight or 10-frame hives, a second hive body should be added to each colony of bees as soon as six frames are found to contain brood.

If the extra section is not added until after the bees have developed an inclination to swarm, the additional room will probably not be very effective. After bees have once developed the swarming instinct, it is almost impossible to keep them from swarming, except by special manipulations, such as breaking up the brood chamber and shifting a part of the comb, either to another part of the hive, or to a separate hive on another stand.

SPRAY POISONING POISONS POLLEN.

One of our subscribers reports that, when the bees were poisoned by spraying, some of the brood died also. He thinks that the pollen in the blossoms was poisoned by the spray, and that the feeding of this poisoned pollen to the brood caused the dying of the brood. This looks very probable. It is more than nonsensical, it is idiotic,

Pope's New Irrigation System

Pat. Nos. 9127/22 & 21419/25



The **LATEST**,
CHEAPEST, and
BEST, for **FRUIT**,
FODDER and
VEGETABLE
CROPS.

(See descriptive
matter in this
issue.)

One of many tes-
timonials:

Pope Sprinkler Co., Croydon.
Gentlemen,

Having used your irrigation system on my Orange Orchard for two seasons, I consider it the most effective method of orchard irrigation I have yet heard of. The output from the pump delivering eleven thousand gallons per hour, at thirty pounds pressure, is comfortably handled by one man without the necessity of any stop during the day, and by allowing the pump to run for an hour after he leaves work, I get ten hours pumping, or one hundred and ten thousand gallons of water applied for eight hours' work, and an absolutely even distribution of the water as well, in addition to effecting a great saving in labor.

Needless to say, I should not like to have to return to the old furrow and check system of irrigation.

Yours faithfully,

L. J. WICKS.

Full particulars from any of the following:—

Pope's Sprinkler and Irrigation Coy., (Patentees)

ROBERT STREET, CROYDON PARK, S.A.

Agencies: John Danks & Sons Pty. Ltd., Sydney.

John Danks & Sons Pty. Ltd., Melbourne.

Messrs. Clark & Faucet, Brisbane.

Messrs. Harris, Scarfe and Sandover Ltd., Perth.

for a fruitgrower to spray his fruit trees when the blossoms are open, since he then damages the pollen. It is absolutely improbable that pollen that has been wet with poisoned spray may serve to fertilise the bloom. So the sprayer works doubly against his own interests when he sprays during bloom, for he kills the insects that do the fertilising, and damages the fertilizing dust itself. He is actually working against his own aims. But the fools are not all dead yet. It is to be deplored that they injure others as well as themselves.

We must keep on preaching and urging people to spray trees before the bloom opens and after it drops, and never during bloom.—"American Bee Journal."

POPE'S NEW IRRIGATION SYSTEM.

The inventor of this system has long been interested in irrigation, being convinced that in a dry country like Australia, the only thing necessary to ensure success in the production of fodder, fruit and vegetable crops, is the application of water to the soil. There are two ways of doing this: one is by flooding, and the other by sprinkling. The former method is not always possible, and requires an abundant supply of

water, while the latter frequently proves a failure by reason of its excessive cost.

The aim of the inventor was to devise a scheme whereby water could be cheaply and efficiently applied to the soil, and thus make irrigation pay. He devoted considerable time to the perfecting of a system which, in his judgment, would meet these ends. Severe tests have proved it to be simple, cheap, light, strong and effective; and we feel that for the first time the producers have had placed before them a scheme of irrigation that is really satisfactory.

The pipes and connections are strong enough to resist heavy pressure, and light enough to be portable. The patent clamp connection is instantly applied and released; so quickly, indeed, can this be done, that the best part of a mile can be laid in a day. There are no screwed joints, no wing nuts, or pins, but a perfectly secure and watertight joint is made by a half-turn of the clamp,

which is self-locking. The pipes are of 24-gauge galvanised iron (two-inch diameter), and set up in 18 feet lengths, which are seamed, soldered, and strongly jointed. The pipe connections, being of strong rubber fabric, are unbreakable, and so flexible as to allow plenty of play in any direction. They will easily follow the contour of the roughest ground. They can be mounted on posts, without the slightest fear of the joints breaking or leaking. Larger sizes can be made up if required.

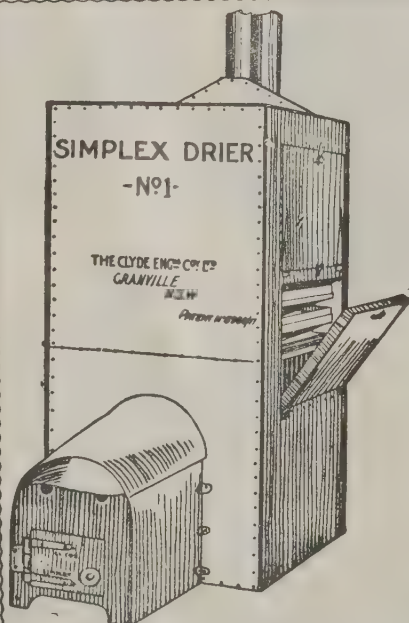
The sprinklers, suitably spaced, are set in the pipes, or mounted on standards at any required height. Under proper pressure the sprinklers will cover 25 feet or more, and they will also work on the lowest pressures. The water can be pumped straight into the service, or through a larger main, supplied with laterals, for which proper connections are provided. In fact, it embodies all the desirable features of other systems, with the utmost simplicity of construction and economy of cost. Any part can be instantly disconnected; indeed, it is so quickly handled as to make it ideal as a movable system.

By screwing down sprinklers it can be converted into a conduit for conveying water anywhere uphill or down dale, which is a great consideration where only an occasional watering is desired. It is far

-LEMONS-

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vc.



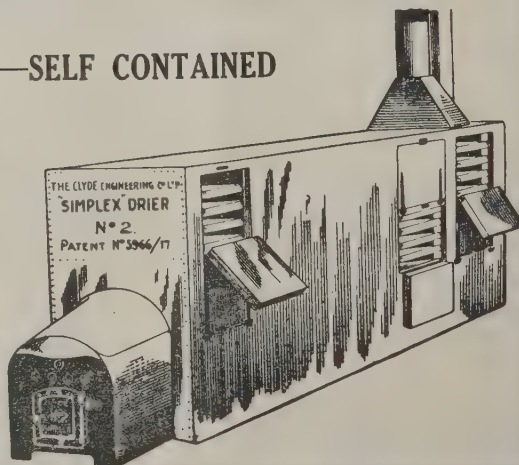
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
... OF ...
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

superior to, and less costly than fluming, for it saves all the water and distributes it all where it is wanted. During the winter it can be uncoupled and stored away, leaving the ground quite clear for working.

Any sprinkler can be instantly shut off or regulated, to give varying quantities of water up to 300 gallons per hour.

We feel sure our readers will be well advised to get into touch with this latest system, which is advertised elsewhere in this issue.

HELPFUL HINTS.

When Your Ford Misfires.

Misfiring in a Ford motor or "missing" as it is generally termed, may result from trouble in either the fuel or ignition systems or in the valves. An incorrect adjustment of the carburettor, creating a mixture either too rich or too lean will cause missing, or at least an irregular operation of the motor.

To discover whether the trouble lies in the carburettor, the driver should set the spark lever in the regular running position and open the throttle until the motor is running about as fast as would drive the car at 20 m.p.h. He then should screw down the jet, turning it in clockwise direction slowly, until the motor appears to be on the verge of stopping. Then he should open it one-sixth of a turn by turning it anti-clockwise. At this stage the throttle lever must be closed, and, as the engine slows up the lever should be momentarily snapped wide open. If the motor immediately picks up without popping back in the carburettor, then the adjustment there is correct, and one must look elsewhere for the seat of the trouble. But if the popping back does occur, the jet should be opened clockwise just a little, and a test made again by snapping open the throttle suddenly once more. In this way a very accurate and economical fuel adjustment may be made.

Should the adjustment, however, fail to correct the misfiring it is advisable to turn attention to the valves and feel the compression of each cylinder with the starting handle. If there is resistance offered to the turning of the handle in only three places in two revolutions, a leaking valve is indicated, and that means the removal of the cylinder head to locate the trouble, which may possibly have arisen owing to a piece of hard carbon getting in between the face of the valve and its seat. The valves should be taken out and the paste.

faces polished with a fine abrasive

But quite possibly the compression test, like the first one, proves O.K., in which case one should make a careful survey of the ignition system, watching for a faulty spark plug, incorrectly adjusted spark coil or a broken commutator wire. In testing for ignition troubles, the top of the coil box containing the four spark coils, should be removed. With the motor running slowly, place a finger on the bottom blade on each coil in turn to discover if it is properly vibrating intermittently. The current passing through these blades is very slight and there need be no fear of shocks. If all blades are intermittently vibrating, then there can be no broken wires from the coil box to the commutator. If, however, the blade on one coil sets up a continuous instead of an intermittent vibration, one knows that the insula-

tion is worn or broken off a commutator wire, and that it is making contact with the frame of the car. It is easy enough to locate just where this has occurred, and to effect a repair by wrapping a piece of adhesive tape around the defective part.

Earlier in the proceedings perhaps, one could have paid attention to the spark plugs directly. The spark plugs may be tested by pressing down the bottom blades of the coils three at a time. This prevents them sparking at the plugs. If the throttle is slightly opened, the one cylinder left should keep the engine running slowly. Test the four in turn, and if there be a defective one, the engine will immediately stop when its turn comes to be tested. Having discovered the defective plug, it can be cleaned or replaced as may be found necessary.



The TRUE VALUE OF A FERTILISER



Is measured in terms of production which is influenced by the fertiliser.

Sulphate of Ammonia

(The premier nitrogenous fertiliser)

when used in connection with intense cultivation, returns more per £1 spent on it than any other fertiliser, and is therefore a safe investment for anyone who seeks large returns from a limited acreage.

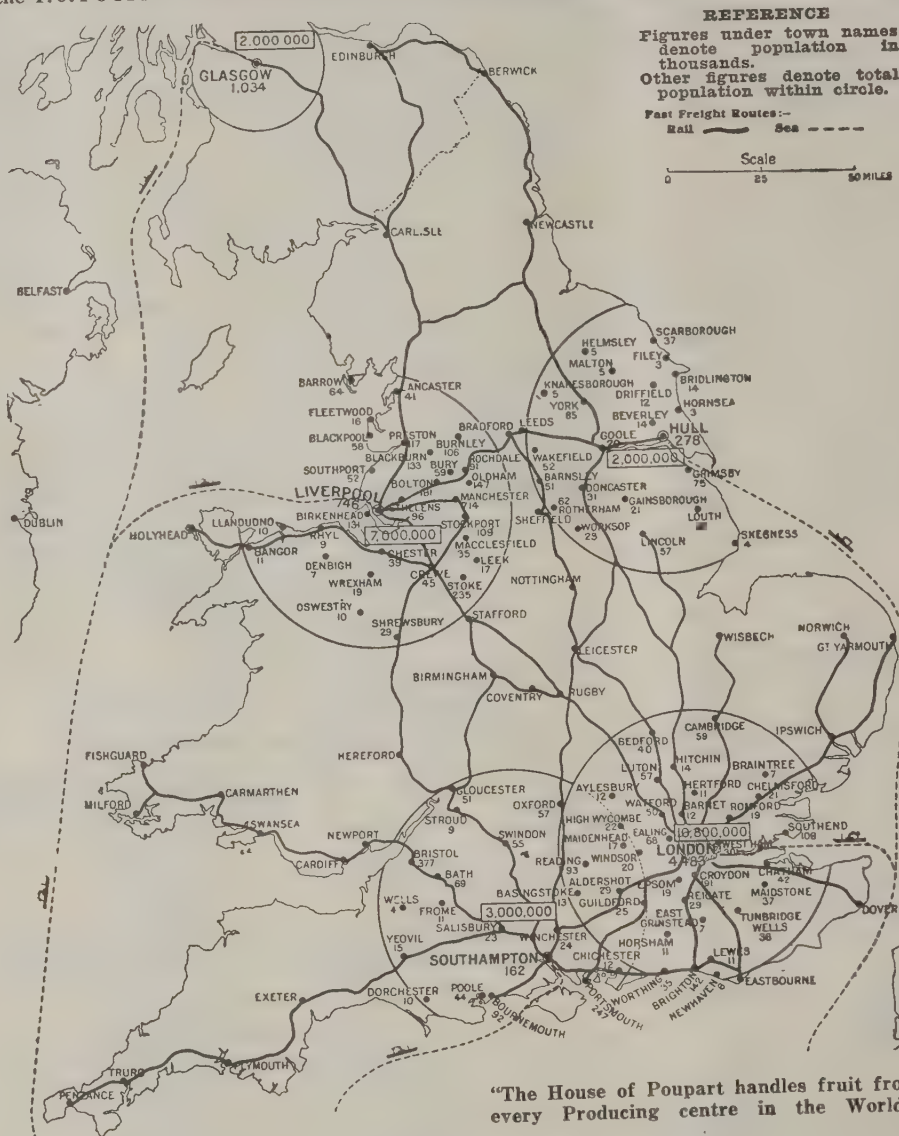
It will pay you to know more about sulphate of ammonia.

Ask for Literature.

THE METROPOLITAN GAS CO.
196 Flinders Street - - - Melbourne

"THE POUPART SALES SERVICE"

FRUITGROWERS THE WORLD OVER Avail yourselves of the **POUPART SELLING ORGANISATION**
In 1926 the T. J. POUPART SERVICE handled over 4,000,000 packages of fruit and paid £200,000 for freight.



"The House of Poupart handles fruit from every Producing centre in the World."

T. J. POUPART LTD.

LONDON - LIVERPOOL - HULL - SOUTHAMPTON AND GLASGOW

Tasmanian Growers ship through Eric Burgess Pty. Ltd., 88 Collins Street, Hobart.

Victorian Growers ship through Fred J. Andrew, 416 Little Collins Street, Melbourne.

South Australian Growers ship through A. W. Bowen & Co., Commercial Building, 9 French Street, Adelaide.

Western Australian Growers ship through Fordhams Ltd., Fremantle.

New South Wales Growers ship through C. Geo. Kellaway & Son, Office 25, City Fruit Markets, Sydney.

New Zealand Growers ship through Griffin & O'Brien, P.O. Box 104, 89 Hardy Street, Nelson.

"HARVEY'S" One-way Orchard Disc Cultivators

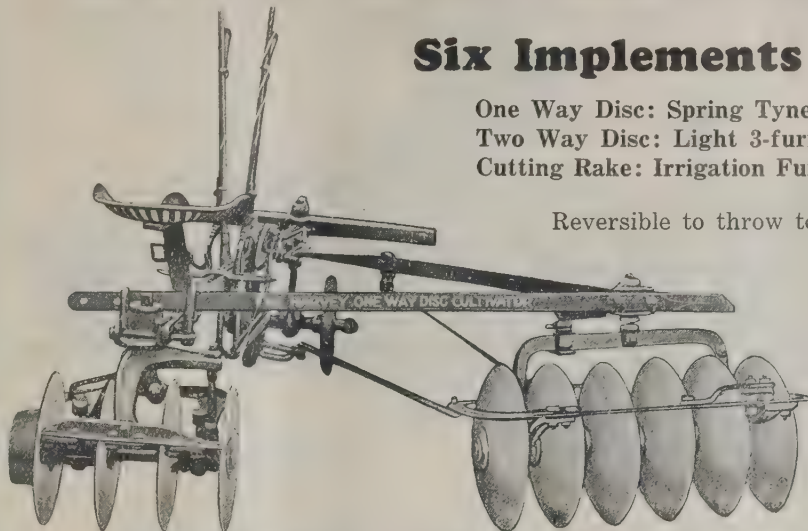
Six Implements in One

One Way Disc: Spring Tyne Cultivator.

Two Way Disc: Light 3-furrow Plow.

Cutting Rake: Irrigation Furrower.

Reversible to throw to or from the Trees.



One Way Disc Extended (Cutting out)

out by several growers using this machine instead of the Plow. Another great feature is that it will work right up to a large spreading tree, where no other implement can reach, yet the team and driver are clear of the branches. It will throw the soil to the trees or pull it away as you desire, leaving the land free from ridges and gutters, as in the case with other discs. The trees can be worked thoroughly while carrying a full crop of fruit. This machine is also used extensively for running out water furrows, by tilting the gang so that one disc only strikes the ground with a good undercut, and takes out a splendid irrigation furrow.

This Disc will break up hard land where a Plow has refused to work.

Can be regulated to cut any depth or shallow against the tree, and deeper in other parts if required.

We stand behind our implements, and guarantee them to be the best quality.

TO CONVERT INTO SPRING TOOTH CULTIVATOR.

The "Harvey" One-Way Disc may be converted into a Spring-Tooth Cultivator by removing the gang of discs and substituting a Spring-Tooth Cultivating Attachment made for the purpose, which will cut 5ft. wide, and get right to the butts of the trees. By a simple conversion this Spring-Tooth Cultivator may be converted into a Cutting Rake to rake up cuttings after pruning. This is done by slipping the two rows of Tynes into one, and is then a perfect Cutting Rake, which is tilted from the seat like a Hay Rake, gathering the cuttings and tipping them into heaps. This attachment is fitted with a patent device which automatically cleans all rubbish out from the Tynes each time the Cultivator is tilted.

FOR CULTIVATING VERY HARD GROUND AND COUCH GRASS.

We manufacture a special three-disc plowing gang attachment for use with the One-Way Disc Cultivator. By substituting this attachment for the cutting gang, you are able to put the first round of soil on to the trees when plowing. Enables you to cultivate right up to the butts of the trees, will plow very deep into the soil. Will penetrate into very hard ground and couch grass, has proved to cultivate where no other machine could enter the ground. Write for further particulars.

Illustrated Catalogue F will be forwarded on application.

AGENTS ALL STATES.

D. HARVEY, TRACTOR IMPLEMENT MAKER
BOX HILL, Melbourne, Aus.



Illustration shows Fordson pulling a 9-foot Header on Mr. H. Tarrant's farm at Warracknabeal, Vic. One man, using extension control, is taking off 260 acres of a 10 bag crop.

Make this Year's Harvest yield Bigger Profits

Time is the big factor during busy harvest days, when every hour saved means more money to the farmer.

With horse-team work there must be delays for feeding and care of the animals. During harvest, when the weather is hot, the strain on horses is greatest, and it is then they need extra attention. This is the time when the Fordson farmer realises more than ever the value of his investment in economical power.

The Fordson costs less to maintain than a team of horses; saves hours each day on care alone; does a better job, and does it quicker; works night and day, if necessary, without rest, and has a hundred uses round the farm when field-work is slack.

Ask your nearest Ford Dealer to demonstrate Fordson power on your own property. Ask him to show you how the Fordson will make this year's harvest yield you bigger profits. He will gladly demonstrate, without obligation on your part.

Easy Terms arranged under the Ford Time Payment Plan.

Fordson
THE UNIVERSAL TRACTOR

£180

Complete with Fenders
and Pulley. F.O.B. Ford
Works in this State.

Ford

ONE TON TRUCK

Complete with Standard
Body, F.O.B. Ford Works
in this State.

£160

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

BRANCHES IN ALL STATES

Fruit Growers and Exporters!

COMPARE THE AVERAGE PRICES

realised for Australian apples at

MANCHESTER

and other British markets respectively last export season; the figures are extracted from official returns published weekly by the British Ministry of Agriculture:—

	Hull.	Manchester.	Hull.	Manchester.
	1st qual.	1st qual.	2nd qual.	2nd qual.
Cleopatras (8 weeks)	19/4	19/10	16/11½	17/6
Dunn's Seedling (8 weeks) ..	17/7½	18/9½	16/3½	17/3½
Jonathan (9 weeks)	16/7½	17/10½	15/1½	15/10½
	Liverpool.	Manchester.	Liverpool.	Manchester.
	1st qual.	1st qual.	2nd qual.	2nd qual.
Cleopatras (6 weeks)	18/2	19/9	15/4	17/9
Jonathan (6 weeks)	16/-	17/10	14/2	16/4
	London.	Manchester.	London.	Manchester.
	1st qual.	1st qual.	2nd qual.	2nd qual.
Cleopatras (8 weeks)	18/3	19/8½	15/9	17/5½
Dunn's Seedlings (8 weeks) ..	16/8½	18/9½	14/10½	17/3½
Jonathan (8 weeks)	16/6	17/10½	13/7½	16/-

The undersigned had administrative control and supervision of

The Manchester Markets and Imported Fruit Sale Rooms

for 15 years, and will be pleased to furnish all particulars regarding the Port and Markets, as also information re Steamship Services, Selling Brokers, Forwarding Charges to interior towns, &c.

Only two steamers carried Australian apples direct to Manchester last season, but large quantities were forwarded from other ports and disposed of each week in the local Sale Rooms—proof that there is a constant demand which should be met by direct shipment, thus avoiding unnecessary transport charges and risk of deterioration and pilferage.

When arranging next season's Export Trade ensure

Maximum Prices and Minimum Distributing Charges — By Direct Shipment to Manchester Docks —

situated 40 miles inland in the heart of the World's most densely populated industrial area, and

The Nearest Port to 12,000,000 Consumers

W. J. WADE

Representative of **The Manchester Ship Canal Co.**

8 Bridge Street, Sydney

Cables and Telegrams—"Portoman," Sydney.

Another Gerrard Time Saver

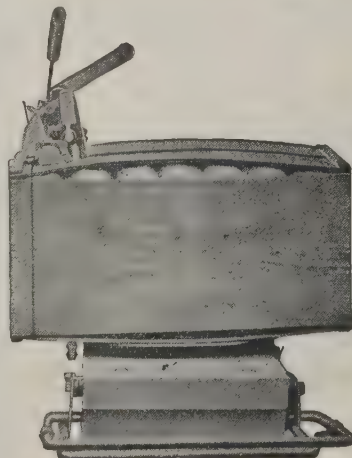
THE ADECO LID PRESS



Ready for Pressing.



Lid Depressed.



Case Turned for Wire Sealing.

In anticipation of the early adoption by growers of the CANADIAN STANDARD BUSHEL CASE, which will place our Export Fruit on the same price level as our overseas competitors, the Gerrard Wire Tying Machines Co. Pty. Ltd. have secured the Australian Rights for the

ADECO LID PRESS,

the invention of an orchard inspector of the New Zealand Department of Agriculture, to facilitate the easy nailing and wire-sealing of the Canadian Standard Bushel Case.

Can be used on any bench or in the orchard.

Saves a Lift of Approximately 2 Tons in Every Hundred Cases.

The Turn Table Reduces Time of Wire Sealing by 50%.

Made of Mild Steel.

Nothing to Get Out of Order.

Price, £5/12/6 f.o.b. Melb.

Gerrard Wire Tying Machines Co. PTY. LTD.

Head Office & Works, 119-125 Hawke Street,
WEST MELBOURNE.

Reiby Chambers, Reiby Lane, SYDNEY.

Queen & Charlotte Sts., BRISBANE.

Pirie Chambers, Pirie Street, ADELAIDE.

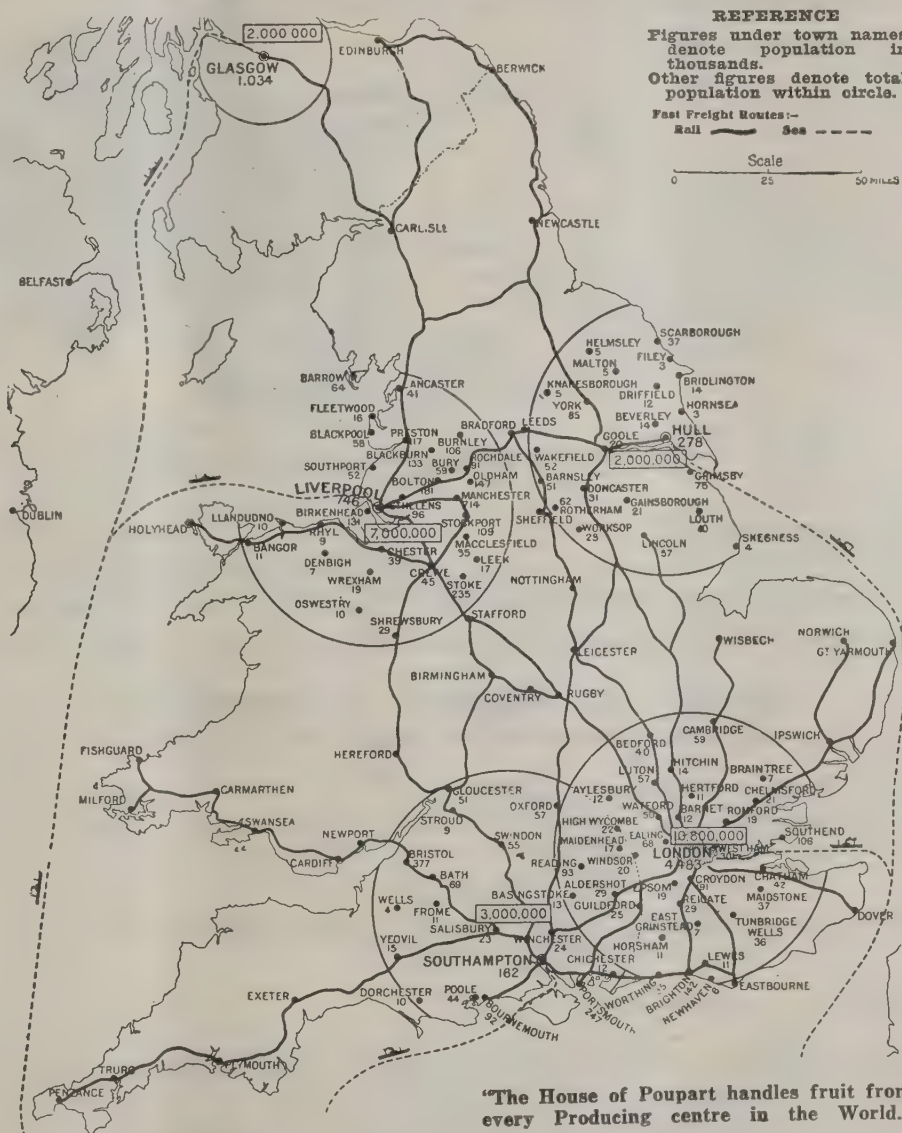
Selbourne Chambers, PERTH.

Davey & Murray Sts., HOBART.

"THE POUPART SALES SERVICE"

FRUITGROWERS THE WORLD OVER Avail yourselves of the **POUPART SELLING ORGANISATION**

In 1926 the T. J. POUPART SERVICE handled over 4,000,000 packages of fruit and paid £200,000 for freight.



"The House of Poupart handles fruit from every Producing centre in the World."

T. J. POUPART LTD.

LONDON - LIVERPOOL - HULL - SOUTHAMPTON AND GLASGOW

Tasmanian Growers ship through Eric Burgess Pty. Ltd., 88 Collins Street, Hobart.

Victorian Growers ship through Fred J. Andrew, 416 Little Collins Street, Melbourne.

South Australian Growers ship through A. W. Bowen & Co., Commercial Building, 9 French Street, Adelaide.

Western Australian Growers ship through Fordhams Ltd., Fremantle.

New South Wales Growers ship through C. Geo. Kellaway & Son, Office 25, City Fruit Markets, Sydney.

New Zealand Growers ship through Griffin & O'Brien, P.O. Box 104, 89 Hardy Street, Nelson.

The Ultimate cost is the one to watch!

Cooper "Perfect Balance" Sprayers are noted for remarkable economy

READ THIS EVIDENCE

Somersby, via Gosford,
N.S.W.

"I have had my Cooper Spray Plant for some considerable time, and it has been in pretty constant use, not only spraying acres and acres of orchard, but washing down vehicles as well.

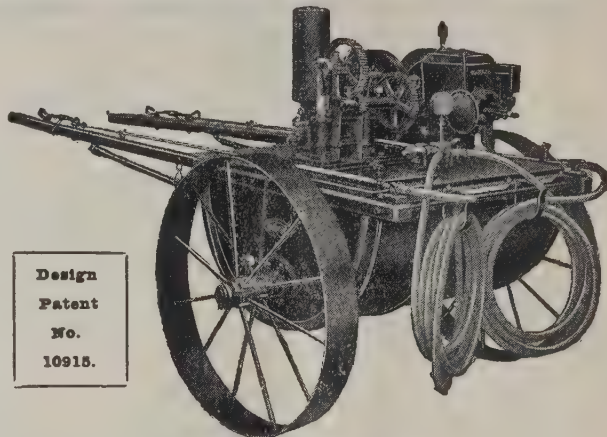
Without a doubt it is very economical—a good long day's work to the gallon of benzine being my experience with it. Any man of commonsense can keep engine and pump running well."

(Sgd.) S. G. SPENCER.

11/6/26.

In the long run
the Sprayer that pays best is the

Cooper



Design
Patent
No.
10915.

WRITE TO
Cooper Engineering Co. Ltd.
129-131 SUSSEX STREET, SYDNEY or
350-358 SPENCER ST., MELBOURNE
Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

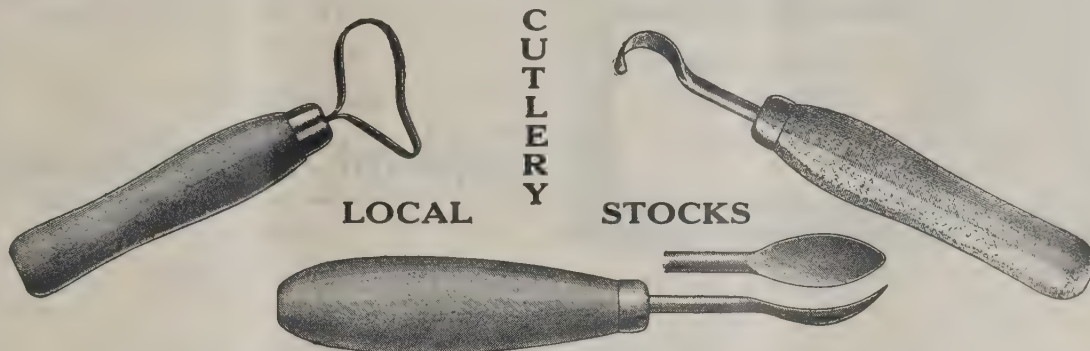
AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne



TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

Sole Australian Agents for
Root Dusting Mechanical
Appliances

(Patented)

Atomol Dusts Ltd.

Manufacturers of

DUSTING MATERIALS used as **INSECTICIDES & FUNGICIDES**
ON PLANT LIFE

DUMPHRIES PLACE
off GILLES STREET
ADELAIDE

Growers would be well advised to allot part of their orchards this coming season for the purpose of making a comparison between dusting and spraying. Providing that the correct dust and dusting mechanical appliances are used, we are convinced that dusting will be generally adopted for controlling all insect and fungi pests.

Atomol dusting material and Root mechanical dusting appliances combine all the essential features of successful dusting. One man with a Root Hand Dust Gun, costing only a few pounds, will cover as much ground as a power spraying machine costing £100 or over in a given time.

SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED INTERSTATE AGENTS:—

VICTORIA:—

Irymple Packing Co., Irymple.
Irymple Packing Co., Merbein.
Sarnia Packing Co., Mildura.
Humphreys & Conran, Red
Cliffs.
Mr. G. W. Hall, Box 1, Bunyip.

QUEENSLAND:—

Orchard Supply Agency, Mary-
land St., Stanthorpe.

WESTERN AUSTRALIA:—

Westralian Farmers' Union,
569 Wellington St., Perth.

TASMANIA:—

Charles Davis Ltd., 60 Eliza-
beth St., Hobart.

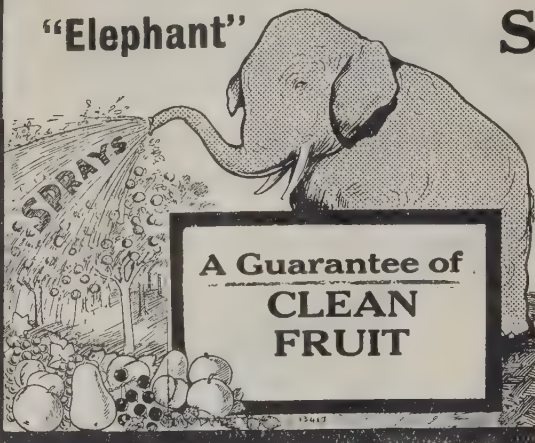
NEW ZEALAND:—

Harold Lightband Ltd.,
79a Lichfield St., Christ-
church.

THE ROOT HAND DUST GUN IS AN IDEAL MACHINE FOR THE APPLICATION OF CALCIUM CYANIDE OR CYANGAS.

When writing advertisers please mention the "Fruit World."

"Elephant"



STILL ON TOP!! ORCHARDISTS

Spraying is essential and your best Insurance—Therefore it is necessary to use only the Best Sprays obtainable.

The successful grower uses

"Elephant" Brand Sprays

ONLY

The Codlin Moth can be kept in check if careful attention is paid to spraying.

Experts say:—"Spray at regular intervals until three weeks before harvesting."

Note this and Use

"Elephant Brand" **Arsenate of Lead** **{Paste and Powder}**

Other Elephant Brand Products

**Bordeaux Mixture Powder - Bluestone - Lime Sulphur
Prepared Red Oil - Prepared Crude Oil**

WRITE FOR PRICES AND PAMPHLET

J A Q U E S P T Y . L T D . ,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone : J 2008.

Agents : Seedsmen, &c.

INTERSTATE AGENTS :

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	BUZACOTTS LTD. Adelaide Street BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR NOVEMBER

Subjects.	
American Fruit Crops	468
A New Apple	455
Banana Bunchy Top	466
Beekeeping Notes	480
Bitter Pit in Apples	447-448
Canning Fruits: The Peach Situation in California; Crop Prospects; Thinning Peaches	469-471
Canning Fruit Prices	448
Citrus: Increasing the Yield of Citrus Trees; Florida Grapefruit Production	454-455
Control of the Pea Mite	453
Dried Fruits: Vine Fruit Crops and Frost Damage; Viticulture in N.S.W. A.D.F.A.; News & Notes	464-465
Export of Grapes and Cork Packing	453
Fighting Insect Pests	477
Fruit Colouring by Ethylene Gas	468
Markets: British and Australasian	472-473
Manuring of Orchard Trees in N.Z.	467
New South Wales: Fruit-growers' Federation and Agents; Crop Prospects; Codlin Moth Regulations	456-457
Notes in Brief	446
Poultry Notes	479
Ports of the London and N.E. Railway	xv
Queensland: Crop Prospects and Notes; Orchard Operations	458-459
Research into Producers' Problems	xvi
Scientific Control of Pests	452
Season's Prospects; Late Reports	448
Soil Management	449
South Australia: Progress of Viticulture; Orchard Operations; Nut Culture	451-452
Tasmania: Crop Prospects and District Notes; State Fruit Advisory Board; Orchard Notes	462-463
Timber for Fruit Cases	450
The Compost Heap	xvii
Victoria: Seasonal Reports and Crops Prospects; District Notes and News	474-475
Western Australia: Orchard Work; District Notes	471

INDEX TO ADVERTISEMENTS.

Books, Publications—	
"Garden Lover," Bank House, Bank Place, Melbourne, p. xxi.	
"Fruitgrowers and Gardeners' Pest Control Chart," Fruit World Pty. Ltd., Bank Place, Melbourne, cover ii.	
Budding Knives.	
L. P. Rosen & Son, Epping, N.S.W., p. xx.	
Canning Machines—	
Austral Otis Andebar Cannery Equipment Pty. Ltd., Hanna St., South Melbourne, p. 443.	
Heine, John and Son Ltd., Sydney, N.S.W., p. xxiv.	
Cold Storage—	
Bender and Co., 100 Elizabeth Street, Launceston, Tas., cover ii.	
Dehydration—	
"Simplex," Clyde Engineering Co. Ltd., Granville, N.S.W., p. xvi.	
Dusting Machines—	
Atomol Dusts Ltd., Dumphries Place, Adelaide, p. 443.	
Fruit Buyers—	
Brooke, C. M., & Sons, Whiteman St., South Melbourne, p. xviii.	
Fruit Tree Suppliers—	
Brunning, John, and Sons, Somerville, p. 446.	
C. A. Nobelius & Sons, Emerald, Vic., p. 475.	
Picnic Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii.	
Two Bays Nurseries, Moorooduc, Vic., p. 442.	
Fruit Graders—	
"Lightning," Lightning Fruit Grader Co., 6 Hoddle St., Collingwood (Vic.), p. 468.	
Irrigation Machinery—	
Pope's Sprinkler and Irrigation Co., Robert St., Croydon Park, S.A., p. xv.	
Manures, Fertilisers, &c.—	
Di-Ammon-Phos, Orchard Fertiliser, Dyes and Chemicals Ltd., 573-585 Lonsdale St., Melbourne, p. xviii.	
French Potash, Sulphate and Muriate, Dalgety & Co., Bourke St., Melbourne, p. vi.	
Sulphate of Ammonia, Australian Sulphate of Ammonia Propaganda Committee, 360 Collins St., Melbourne, p. xvii.	
Motor Cars and Trucks—	
Ford Motor Co. of Aus. Pty. Ltd., all States, p. xii.	
Brockway Trucks, Ronaldson Bros., & Tippet Pty. Ltd., 630a Bourke St., Melbourne, p. 476.	
Orchard Ploughs, Cultivators, &c.—	
D. Harvey, Box Hill, Melbourne, p. xi.	
Patent Attorney—	
Geo. A. U'Ren, Henty House, 499 Lit. Collins St., Melbourne, p. xvii.	
Poultry—	
Karswood Poultry Spice, Agents all States, p. 478.	
Refrigerating Machinery—	
Werner, R., & Co. Pty. Ltd., Richmond, Vic., cover iii.	

Roller Conveyors—

Schumacher Mill Furnishing Works Pty. Ltd., Port Melbourne, p. xix.

Spray and Dusting Material—

"Arsinette," Wm. Cooper & Nephews Ltd., 4 O'Connell St., Sydney, p. x.
 "Blue Bell," Arsenate of Lead, 31 Queen St., Melbourne, Vic., p. iii.
 "Carlton" Arsenate of Lead, Walter Voss & Co., Milwall, London, E.14, p. 454.
 "Electro" Arsenate of Lead, Agents all States, p. xxv.
 "Elephant" Brand, Jaques Pty. Ltd., Madden Grove, Burnley, Vic., p. 444.
 "Gargoyle" Spraying Oil, Vacuum Oil Co. Pty. Ltd., cover i.
 "Swift's" Arsenate of Lead, H. W. Peabody & Co., Sydney and Melbourne, p. viii.
 "Clensel," Bruce Anderson, 56 Hardware St., Melbourne, p. 465.
 Dusting Powders, Atomol Dusts Ltd., Dumphries Place, Adelaide, p. 443.
 "Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.
 "Black Leaf 40," Producers' Distributing Soc. Ltd., Melbourne, p. iv.
 Berger's Arsenate of Lead, Neptune Oil Co. Ltd., River St., Richmond Vic., p. xxii.
 "Sulcar" Carbonised Sulphur Spraying Mixture, Sinclair & Co., Box 3, King St., P.O., Sydney, p. 459.
 "Yarra" Fruit Sprays, Parsons & Jaques, 6 Patterson St., Abbotsford, Vic., p. 457.

Spray Pumps and Guns—

Alumino-Thermic and Metal Sprayers Ltd., 247 George St., Sydney, N.S.W., p. iv.
 "Bave-U" Power Sprayer, Russell & Co., Box Hill, p. xx.
 "Cooper" Cooper Engineering Co. Ltd., 129 Sussex St., Sydney and 350 Spencer St., Melbourne, p. 442.
 "New Hercules" Sprayer, Farm and Pastoral Supplies Pty. Ltd., 500 Bourke St., Melbourne, p. 477.
 "Rosebery" Spray Pump, A. H. McDonald & Co. Pty. Ltd., 570-4 Bridge Rd., Richmond, p. xix.
 Spray Pumps, etc., Cooper Pegler & Co. Ltd., 24d, Christopher St., London, E.C.2, p. 480.
 Ronaldson-Tippett Spraying Plant, Ronaldson Bros. & Tippett Pty. Ltd., Ballarat, p. 476.

Strapping Fruit Cases—

Gerrard Wire Tying Machines Co. Pty. Ltd., 119-125 Hawke St., West Melbourne, p. xiv.
 "Griplock," Wire Strapping, Jas. Henty & Co., 499 Lit. Collins St., Melbourne p. ix.

Stencilling Inks—

Caldwell's Pty. Ltd., Yarra Bank Rd., South Melbourne, p. 467.

Transport—

London and N. E. Railway, Burns, Philp & Co., agents, p. xxii.
 Port of Manchester, rep., W. J. Wade, 8 Bridge Street, Sydney, p. xiii.

Tree and Stamp Fullers—

Trewhella Bros., Trentham, Victoria, Stumping Jacks, etc., p. ix.
 "Digger," Quick Manufacturing Co., 76 Fender St., Thornbury, p. xx.

Fruit Trees FOR 1928



Doubtless you are getting your land grubbed and cleared within the next few months for new orchard

But Have You Ordered Your Trees?

which mean to you — your very existence — so to speak — if those trees fail — it is unthinkable — after 5 or 6 years of hard work, hard cash — and no return in fruit or cash with your hopes dashed to the ground. You cannot afford to experiment but secure your trees from a reliable source

Catalogues and Information Free

JOHN BRUNNING & SONS

SOMERVILLE NURSERIES

SOMERVILLE

VICTORIA

AUSTRALIA

186 acres under intense cultivation.

Established 61 Years

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States.

Changes of copy for advertisements must be in our hands on or before the 12th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

HEAD OFFICE:

**Bank House, Bank Place,
Melbourne, Victoria**

Representatives in all States and New Zealand.

British Office: Harvey, H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

American Office: S. D. McFadden, Pacific Bldgs., Market Street, San Francisco, Cal., U.S.A.

R. E. BOARDMAN, A.F.I.A., A.A.I.S., Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOOBRIDGE, M.L.C.

PERSONAL.

Mr. G. H. B. Davidson, Orchard Supervisor under the Victorian Department of Agriculture, has been transferred to Warragul district. Mr. W. H. Nicholls recently resigned from the position of Orchard Supervisor, and it is expected the vacancy will shortly be filled.

NOTES IN BRIEF.

An interesting theory as to the origin of Bitter Pit in Apples is advanced by Mr. W. M. Carne, botanist and plant pathologist, W.A., whose article is reproduced in this issue.

The Peach canning situation in California is dealt with in our Canning Fruits section.

Insurance of fruit crops against hail damage has been arranged by the Union Assurance Co. for Goulburn Valley growers.

Cincturing of Currant vines should now be attended to. See Seasonable Orchard Notes in our South Australian section.

Growers' reports of crop prospects are given in the notes for the various States.

BITTER PIT IN APPLES.

A Theory as to its Origin.

(By W. M. Carne, F.L.S., Botanist and Plant Pathologist, in the "Journal of Agriculture," W.A.)

In spite of the work of many investigators, and especially of McAlpine, no satisfactory explanation of the origin of Bitter Pit has yet been put forward. Certain facts as to the connection between it and cultural methods have been demonstrated, and have generally been adopted by growers. The danger of heavy pruning of susceptible varieties is an instance. None the less pit continues to occur in our orchards and, what is of more importance, in the export cargoes in the early part of each season. More recently, Smith has brought forward evidence that the development of p.t in overseas shipments may be reduced by later picking and by placing the fruit in cold storage as soon as possible after picking (see "Fruit World," April, 1927). Smith's conclusions have been verified in Western Australia by experiments carried out during the past season. (These will be published later.)

As a result of a study of the results of last season's experiments, and of the data published by Smith, McAlpine and others, a theory has been evolved which appears to meet the facts better than any previously put forward. It is offered tentatively in the hope that it will arouse constructive criticism, and better still, lead to experimental tests of its accuracy.

Only Immature Fruit Affected.

The theory, which is based mainly on a study of Cleopatra, a very susceptible variety, is as follows:—

Bitter pit is a necrosis (death of cells) of immature starch-filled tissues of rapidly growing Apples, resulting from excessive transpiration, followed by osmotic action between the starch-filled cells and those in which the starch has been largely or completely changed to sugar.

Excessive transpiration on the tree is related mainly to periods of bright sunshine and low humidity. It may or may not be associated with deficiency of soil moisture. It is further related to the size and rapidity of growth of the fruit and to the ability of the tree to maintain sufficient supplies to the fruit to meet the losses of water during periods of high transpiration.

Excessive transpiration in storage is related to the size of the fruit and the fact that it is cut off from receiving supplies of moisture. The difference between cold and ordinary storage is one of relative rates of transpiration and rates of maturation.

Immature tissues are defined as those in which the cells still contain starch.

Bitter pit does not develop on either mature or ripe fruit. Maturity is defined as the point of development at which the tissue cells do not contain starch. Mature fruits are not ripe (see Rothera).

The period susceptibility

extends from an early stage of the fruit development, when sugar commences to appear in some of the cells, to maturity. Susceptibility is greatest when the fruit is growing rapidly and liability is greatest when the susceptible stage is developed during conditions most conducive to transpiration, i.e., in Australia during January, February, and March.

The difference in susceptibility of varieties is in part due to differences in the rate of fruit growth, and the ability of the tree to supply deficiencies of moisture, and in part due to the critical periods of susceptibility in different varieties being passed under different conditions of temperature and humidity. In other words, a variety such as Yates may not be susceptible, owing to its relatively slow growth and efficient vascular tissue in the fruit pedicels, and to the fact that its susceptible period is passed in April and May.

Large Fruits and Rapid Growth.

The occurrence of pit in early shipments of susceptible varieties is due to the picking of the larger terminal Apples first, in the idea that they are the first to mature, when they are really amongst the last on a tree if free from mouldy core or infection by parasites.

The common occurrence of pit in the large terminal fruit, or in the large fruits of young trees, or in the large fruits of light crops on old trees, is due to their rapid growth, large transpiring surfaces, late maturity and their early picking.

It is not proposed here to give all the evidence on which the foregoing is based, nor to quote all the authorities which have been consulted. The theory is to be tested out experimentally next season. If it should receive support, it will be elaborated at a later date. It may also be extended to a consideration of crinkle (confluent pit, or cork), and possibly to water core or glassiness, upon which the theory casts an interesting light. Some points which are either new or have not previously received the attention they deserve, will alone be dealt with.

Some Observations.

1. That bitter pit originates in store as well as on the trees. This is not generally accepted. McAlpine, himself, first inclined to this idea and then apparently abandoned it on a single inconclusive experiment. In the writer's opinion, the evidence provided by McAlpine himself in Victoria, by Brooks and Fisher in America (quoted by Smith—the authors apparently did not realise the meaning of the results obtained by them), by Smith in Tasmania, and by Wickens and Carne in Western Australia (see this "Journal"), is conclusive that pit does originate in store.

2. That bitter pit ceases to develop with approaching maturity, is a matter of personal observation during the course of experiments. It is supported by McAlpine's observations and particularly those of Rothera. The writer knows of no evidence to the contrary.

3. That pitted tissues contain starch has been shown by McAlpine, Rothera and others. Rothera has shown that starch implies immaturity and that starch and pit are closely and definitely linked. The ripening of Apples (see Robbins), we know to be uneven. The tissues within the core line formed by the ten vascular bundles in a transverse section are the first to ripen. Ripening then continues outward between the vascular bundles so that the last areas to ripen are triangular segments with their bases just beneath the skin and their apices at the vascular bundles of the core line. If pit develops when these segments are wide and the cells containing starch extend to their apices, it may be deep seated. As the ripening areas (cells free from starch) extend outward, pit, if developed, will be more and more superficial.

4. That the large terminal Apples should be amongst, if not the last, of the fruits on a tree to ripen, appears to have been quite overlooked. In a variety such as Cleopatra all setting of fruit takes place within a few days. All fruits start practically at the same time, nevertheless following a law of tree growth, the strongest sap flow is towards the terminal growths. Apples there situated grow more rapidly and attain a larger size than those situated elsewhere. Rapid growth does not in fruit necessarily, if ever, mean rapid maturity. The facts indicate the reverse.

The knowledge of the undoubted greater liability of terminal Apples to develop pit than other Apples on the same tree, and the known fact that immaturity increases pit, alone justifies the conclusion that these large fruit must be when picked the more immature. Other facts support this. Injuries, cincturing (see McAlpine), and diseases affecting sap flow, lead to premature maturity. The same effect results from troubles directly affecting the fruit, such as mouldy core, codlin moth injury, etc. Healthy growth delays maturity.

Further, as the last parts of an Apple to ripen are those nearest to the centres of sap flow (vascular tissues) so should we expect the fruits nearest the points of maximum sap flow (the terminals of shoots) to be the last to ripen. On young vigorous trees and healthy older trees

with light crops the fruit is typically large in consequence of the concentrations of the sap supplies to a limited number of fruit, and the period and degree of susceptibility to pit is increased accordingly.

5. That the cells containing much starch should suffer whilst those with less or none escape is readily explained. Water loss from the surface of a fruit sets up diffusion currents from the deeper cells until equilibrium is attained. But the osmotic tension of the sugar-containing cells being greater than those charged with starch, those latter can receive no supplies from their more mature neighbors, but must lose water to them. Indeed, the final result of the loss of water, if not replaced by the vascular tissue from the tree must be that the ultimate loss of water is borne by the starch-filled cells. If this loss is great enough the concentration of the sap in these cells will cause plasmolysis and death as suggested by Wortmann. In the writer's opinion this is the real origin of pit. In mature Apples loss of water is distributed through the tissues and shrinkage occurs; in immature Apples the loss is centred in starch-filled areas causing local shrinkage, death and pitting.

General Conclusions.

If the theory here stated be true, as the writer believes, certain modifications of orchard practice with susceptible varieties should result in the reduction of pit in stored fruit.

The theory would indicate that:—

1. At thinning time the terminal fruits (centre fruits of clusters should be removed.

2. The larger the fruit the later it should be picked. Picking should commence on trees with good crops, beginning with the non-terminal fruit. The last pickings should be from the large terminal fruit (if not removed at thinning time) on trees with good crops, all the fruit of young vigorously growing trees, and all the fruit of older trees with light crops, in other words, the fruit most liable to pit.

3. Picking should be delayed until the fruits approach maturity. The best method of determining maturity has yet to be worked out. It is probable that in the average season the optimum time for picking Cleopatras is about the second week in March.

4. Fruit should go into cold store as soon as possible after picking. This reduces the rate of pitting, if the Apples are picked while still susceptible. If picked in a mature state, over-ripeness is the danger, the liability to which is reduced by immediate cold storage.

References.

- McAlpine, D.—"Bitter Pit Investigations."
Smith, A. J. M.—"Bitter Pit in Apples," "Food Investigations, Special Report No. 28."
Robbins, W. W.—"The Botany of Crop Plants."
References to Wortmann will be found in McAlpine's First Report, and to Rothera in his Fourth Report.

THE SEASON'S PROSPECTS.

As far as can be judged at present, it looks as if Australian fruitgrowers will have a chance this season of recovering some of their losses from the disaster of last season. Following the light crops last year fruit trees throughout the Eastern States seem to be in good condition, and reports indicate that most varieties have blossomed well, and medium to good crops are hoped for. In Western Australia prospects are equally good, and it is even anticipated that last year's record crop will be exceeded. Reports regarding prospects in the various districts are given under the headings of the different States.

Growers will do well to remember that where heavy crops are set, thinning of the fruit is essential in order to secure good marketable and export quality.

Late Crop Reports.

NYAH PROSPECTS.

The Nyah district produces principally Dried Vine Fruits, Sultanas predominating, there being approximately 2,000 acres of these, some 300 acres of currants, about the same area of spirit grapes, and 400 acres of citrus.

The sheds packed 3,000 tons of fruit last season, but the visitation of frost on September 24 and 25 caused serious loss to a number of blockholders, whose vines are situated on susceptible areas, so this will mean reduced production for 1928. The damage is estimated, after a survey of the whole district, at 30 per cent. Sultanas and 40 per cent. Currants.

The winter and spring have been the driest since 1914, consequently

the vines have been free from disease. Citrus trees, where soil moisture was maintained, appear to have benefited by the dry winter; they have thrown out a wonderful amount of young growth, and are carrying a prolific show of blossom.—A. R. Lawrence, Nyah, Vic., 20/10/27.

WAVERLEY DISTRICT NOTES.

The principal fruits grown are Apples, the main varieties being Jonathans, Rome Beauty, Five Crown, Stewart's Seedling, Yates, Statesman. There was a specially good blossoming in all varieties, and the fruit is setting well, with the possible exception of Jonathans, which in some places are not setting very well. Wherever the trees were well fertilised, the prospects are good.

Pears are good all round. Williams in some cases are not setting well, but all other varieties are exceptionally good. Plums also are good.

The trees generally are very clean, and we have had no trouble from pests or diseases. Black spot is not showing yet.—L. Pepperell, Waverley, Victoria, 21/10/27.

NEW ZEALAND FRUIT CROPS.

Mr. E. Oswald Reilly, of Dunedin, reported on October 14, that he had just returned from Otago Central, where there was a wonderful setting of blossom on Apricot, Cherry, Peach, Plum, Apple and Pear trees. It looked like a record crop.

FORDSON TRACTORS.

The Ford Motor Co. of Australia Pty. Ltd. draws attention to the revised price for the "Fordson" Universal Tractor, which is now £195.

AUSTRALIAN CANNED FRUIT PRODUCTION.

In giving evidence before Mr. J. Gunn, of the Development and Migration Commission, who is investigating the position of the canned fruits industry, Mr. J. R. Moore, Secretary of the Cannery Association, stated that during the period 1921 to 1926, the area under orchards in Australia had increased by 71,000 acres, and was steadily growing. He said that 1,943,279 dozen tins of canned fruit were produced last season, of which Australia consumed approximately 1,500,000 dozen tins, leaving over 400,000 dozen tins which must be exported, or an amount of about 30 per cent. of the total fruit processed.

CANNING FRUIT PRICES.

An agreement has been reached whereby growers of canning fruits will receive a minimum of £12 a ton from the canneries this season. An effort is being made to secure a higher price for Apricots, of which the crop is generally light.

DEATH OF MR. SYDNEY STOTT.

The business community of Melbourne lost a well-known figure in the death of Mr. Sydney Stott, which took place at Wheeler's Hill on October 7, at the age of 70. Mr. Stott, who was governing-director of Stott & Hoare Pty. Ltd., and Stott's Business College, had long been prominently associated with the business world, and was one of the first to introduce typewriters and shorthand writing to the State. He also helped to found the first Automobile Club in Melbourne, and his orchard at Wheeler's Hill was well known.

Soil Management.

For the Maintenance of Fertility in Apple Orchards

(By Jas. H. Lang.)

(A paper read at the 5th Annual Conference of the N.S.W. Agricultural Bureau, at Hawkesbury Agricultural College, July 26, 1927.)

A FEW YEARS AGO it was said that there were two ways to manage an orchard—one was to do it scientifically, and the other in order to make a living; and there was very often a great difference in the two ways. This was due partly to the innate conservatism of the man on the land, which led him to view with suspicion anything new, preferring to depend on what he called the results of his experience, which very often was only what he and his father before him had done from their childhood. The scientist, however, was not altogether without blame, and he very often forgot that the orchardist was under the necessity of making a living.

The outlook has now entirely changed, owing to the increased cost of production. The numerous pests to be combated and controlled, and the public demand for only the best quality, leads the grower to look more to the scientist for the solution of his problems, and the scientist, while still recognising the importance of pure science, is not unmindful of the economic factors.

Perhaps there is no more profitable field for investigation than in soil management, for unless soil conditions are congenial to the trees, they will certainly lack both vigour and fruitfulness. We all know the greater fertility of virgin soil, and how, with continued cultivation, a gradual change takes place in the colour and texture of the soil, which change is reflected in its decreased fertility. How, then, can the soil be maintained in a fertile state? Our problem differs from that of the farmer, as we grow the same crop year after year, and there is no chance of resting the ground.

The soil can be studied from three aspects, namely, according to its physical condition, and its chemical and biological contents.

The physical condition deals with the size of the soil particles, which may vary from coarse sand or gravel down to clay. This determines the amount of available moisture in the soil, and thus has an important bearing on fertility, as the plant can take up nothing from the soil unless it be water-soluble. When water fills up the spaces between the soil particles, the soil is described as water-logged,

and is unsuitable for cultivation until the surplus moisture is got rid of by drainage or evaporation.

The moisture available for plant life consists of a film round each of the soil particles, and Dr. King tells us that in the surface four feet of an acre of coarse, sandy soil, there are no less than 45 square miles of water spread out over the surface of the soil particles, from which the hair roots of the crop can draw their supplies; in a good loam there are 270 square miles, and in the finest clay soils, 1,300 square miles to the acre. It is clear that there must be a vast difference in the productive capacity of various soils, due to the difference of internal surface alone.

Regarding the chemical contents of the soil, the analyst can give us the various ingredients contained in the soil; but this does not solve the problem of soil management, as soil fertility is not entirely dependent on the amount of mineral plant food in the soil. A fertile soil is the result of a number of factors, one of which is the supply of mineral elements of plant food. Chemical analysis can show the amount of such food, but not the amount of an available form.

The soils of Australia, as a whole, are deficient in phosphates, due, it is said, to the lack of large animals during past ages. It is the decomposition of such animals that gradually builds up this ingredient in the soil.

One is apt to regard the soil as merely dead matter, but on the contrary it simply teems with life. Earth worms play an important part in soil fertility by opening up the soil, and also rendering its contents more readily available for plant food. But it is the soil bacteria that play the most important part in soil fertility, as it is these which cause the decomposition of all organic matter, reducing it to a form suitable for plant food.

The principal reason for decreased production after several years of clean cultivation is the depletion of the humus in the soil. No good results can be obtained until this humus is restored. In most old-established fruit-growing districts, one is confronted with orchards where the trees are making little or no growth, and have generally an unthrifty ap-

pearance, while the soil is light in color, and is apparently too poor to grow weeds. This is due to the destruction of the humus, and as the process of depletion was gradual, so will be the process of restoration.

Many years ago the orchards in the Mornington Peninsula were in this condition until the Cape Weed invaded the district, and growing in the orchards during the winter months restored the necessary organic matter for the supply of humus. The system that is now being generally adopted throughout the orchards in Victoria is clean cultivation during the spring and early summer months, when the trees are making their most vigorous growth, and the encouragement of weeds or the planting of a cover crop for the autumn and winter. Where the water supply is limited, care must be exercised that the soil moisture is conserved by cultivation, and also that no weeds are allowed to compete with the trees for what moisture is available.

The growth of weeds alone—or, as is sometimes done, the ploughing-in of straw—does not give the result anticipated. Soil analysis has shown that the nitrogen content of the soil is often less after such treatment than before. This is due to the bacteria which feed on this organic matter retaining the nitrogen for their own use, and when there is not sufficient nitrogen in this material, drawing on the soil nitrogen for their supplies. This can be overcome by the application of a nitrogenous manure, such as nitrate of soda or sulphate of ammonia.

The most suitable plants for cover crops are the legumes—beans, peas, etc., as these are the hosts of bacteria which have the power of drawing their nitrogen requirements from the air, and later it becomes available for plant food.

The application of superphosphate in the autumn often results in an abundant growth of trefoil, which is perhaps the cheapest and one of the best ways of adding humus and nitrogen to the soil.

The secret of successful soil management is to feed the soil rather than to give it a tonic in the form of chemical manure. Nature's invariable rule is "No life but at the expense of life."

We see the advantage of applying nitrogen and superphosphate to the soil. As fruit is also rich in potash, this can often be used, and is said to have a marked influence on the color of the fruit.

The time of application opens up a big question, and one in which further experiments are needed, Messrs.

Kraus and Kraybill, of Oregon, U.S.A., have told us that the fertility of a plant depends on the proportion of carbohydrate (derived from the air) and nitrogen (derived from the soil). An excess of nitrogen results in vigorous growth, but no fruit, while where the carbohydrates are very abundant there is little or no growth or fruit. It should be the aim of the grower to keep the proper balance between these two, and thus secure sufficient growth to maintain a healthy tree, and one that will produce a profitable crop of fruit.

The time when nitrogen is most needed is when the tree is blossoming and setting the fruit. The pollen, which is produced in vast quantities, is rich in nitrogen, and a shortage at this time may result in a very poor setting after a profuse blooming. Many apple trees are prone to produce crops only in alternate years. Experiments in Missouri have shown that an application of nitrogenous manure in the autumn will often re-

sult in the trees having sufficient food available at the blossoming period not only to ensure the setting of that year's crop, but for the formation of fruit buds for the following season.

Herein I think lies the solution of many of our problems. If we can reduce production costs by better and more regular crops, we will be enabled to secure better returns, notwithstanding the increased cost of labour and orchard supplies.

It is impossible in this paper to cover the whole subject. Many phases have been left untouched, but if it leads to more thought and experimental work being carried out, it will have fulfilled a useful purpose.

Individual orchardists can do much, but many of them lack both the time and training necessary for this work, and as on it depends the well-being of one of the primary industries of the Commonwealth, we can reasonably ask the Governments to assist us by experimental and investigational work.

TIMBER FOR FRUIT CASES.

Merits of Hardwood Discussed.

A DISCUSSION of the possibility of using seasoned hardwood for fruit cases took place on September 21, when representatives of the Apple and Pear Growers' Association, Victorian Central Citrus Association, fruit exporters, and the hardwood sawmillers met in Melbourne.

The Chairman (Mr. J. H. Lang), in opening the conference, said growers were anxious to use Australian woods for fruit cases, but complaints were continually being received from overseas in regard to the unsatisfactory nature of the hardwood cases as at present used. The dark color was not a serious objection if the other defects could be overcome, as one of the most sought-after cases or the English markets was the red jarrah case from Western Australia, which was seasoned and partly dressed. The use of unseasoned cases was largely due to growers not being able to foresee their requirements far enough ahead.

Mr. F. J. Yelland (Yarra Junction Saw Mills), said he had never considered the green hardwood case to be a satisfactory one. Green timber was liable to shrink so irregularly that it was almost impossible to get a uniform case. At the request of a body of growers, his firm was making an experiment this year, and had put down timber to season for 100,000 cases. This would be planed and

dressed, and put through machines to ensure the width being correct. Of course timber varied slightly according to atmospheric conditions, but if not exposed unduly to the weather, it should not buckle and warp after being seasoned. If this experiment proved that growers were satisfied with this type of case, many of the sawmillers would undertake to make it commercially. It was only a question of price, which Mr. Yelland anticipated would not be more than that of the softwood case—probably slightly less. The Eucalypt timbers, of which the Mountain Ash was the most suitable for case-making were nearly always of darker coloring than Pine timber; but he did not consider this a serious objection, and very strong and attractive cases would be made from it.

Mr. Collins (Neerim Junction Mills), confirmed Mr. Yelland's remarks. His firm had been cutting cases for years, and they were regarded as satisfactory. It was all a question of price.

Mr. B. S. B. Cook (Secretary V.C.C.A.), pointed out that the Citrus growers were in a slightly different position from other fruitgrowers, as they often had to hold their cases for months during the prolonged marketing season. Great losses had been experienced through the use of green hardwood cases. If the present experiment proved successful, they would be glad to use an Australian product. The planed hardwood case was very attractive. He queried whether, in its seasoned con-

dition, it would stand the nailing, and pointed out the extra costs for freight.

Mr. Yelland stated that tests had proved that the nailing machines in general use handled the timber after it had been seasoned eight months, and there was no tendency to split. The nails would not draw, as in softwood cases. He further stated that the hardwood cases would not stain if they got wet after being seasoned.

In reply to Mr. Bailey, the sawmillers said that the Canadian case could be cut quite satisfactorily from hardwood timber.

Mr. Webb (representing the Chamber of Agriculture), said that canneries would not use the hardwood timber, as it caused the tins to rust.

Mr. Yelland stated that this was due to the acetic acid present in green timber, but the trouble would not occur with seasoned timber. It was pointed out that one of the proprietary canneries had been using hardwood cases for export for years, and was quite satisfied with them.

Mr. T. J. Curry (Secretary, Hardwood Sawmillers' Association), pointed out that growers should consider the local and interstate markets also. Here local cases could be used without fear of competition. If Australian millers ceased to cut fruit cases, the price of imported cases would rise very considerably. The breaking strain of the hardwood case was 30 per cent. greater than that of Spruce, Oregon or Pine, and the wood could therefore be cut thinner to reduce the weight.

Members expressed their desire to use Australian cases if they proved suitable, and awaited with interest the result of the experiment now being carried out.

Duty on Imported Shooks.

The Secretary of the Fruitgrowers' Federation of New South Wales (Mr. E. E. Herrod), draws attention to the question of tariff on imported softwood shoos, which will shortly be considered by Parliament, and urges all interested to oppose a rise in duty. The Canadian fruit case is regarded as absolutely essential to the industry, and it has been decided to ask that the duty on shoos from Canada should be entirely removed.

POULTRY KEEPERS PLEASE NOTE!

Scotchman (arranging with clergyman for his second marriage): "And I should like the ceremony in my yard this time, sir."

Clergyman: "Good gracious, why?"
Scotchman: "Then the fowls can pick up the rice—we wasted quite a bit last time!"

South Australia

Progress of Viticulture. Orchard Operations. Nut Culture.

ANNUAL VITICULTURAL CONFERENCE.

A Record Vintage Expected.

THE ANNUAL MEETING of the Federal Viticultural Council was held at the office of the Vinegrowers' Association, Adelaide, S.A., on August 30. Mr. L. N. Salter presided. Delegates were present from South Australia, Victoria and New South Wales. Mr. C. S. Pantton (Sydney) was General Secretary, and Mr. H. J. Finnis (Secretary of the South Australian Vinegrowers' Association) had charge of the State arrangements.

The Annual Report.

The annual report, presented by the General Secretary, reviewed the circumstances which led to the continuance of the Commonwealth wine bounty and discussed the possible measures that would be taken by foreign competitors to make the Imperial preference granted to Australian wine ineffective. Preference on Empire wine had not been increased by the new duties, but it was hoped that the Australian wine trade would receive ample compensation in more favorable market conditions which would be secured by fixing the limit at which wine might qualify for the lower duty at 25 degrees of proof spirit, instead of 30 degrees, as hitherto. Although the change was calculated to give Empire sweet wine a really effective preference to the full money value of 4/- a gallon by automatically raising the duty on Tarra-gona and Lisbon wine to 8/- per gallon, it was apparent that foreign merchants would endeavor to devise some method of evading portion of the increased duty. They had already experimented with success by blending lower duty wine on arrival in England. The position regarding the effectiveness of the Imperial preference was still obscure, and would remain in doubt for some time.

Another feature of the Budget calling for comment was the omission of any duty on imported foreign must, and the imposition of the low duty of 1/- a gallon on so-called British wine. Prominent wine merchants held that the duty on basis wine should be equivalent to that on Empire wine of the same alcoholic potency.

The Vintage.

Within the past few years the production of wine in Australia had greatly increased, as new areas had

come into bearing, and there had been some heavy vintages, especially in South Australia. The figures were:—1922, 8,542,573 gallons; 1923, 11,427,793; 1924, 14,663,881; 1925, 13,299,290; 1926, 16,224,741; 1927 (approximate), 18,968,000.

Last year's production of wine in the different States and an estimate of the production for the current year were as follows:—South Australia, 1926, 13,074,874; 1927, 15,166,000; Victoria, 1,637,274 and 2,000,000; New South Wales, 1,240,893 and 1,500,000; Western Australia, 238,726 and 268,000; Queensland, 32,974 and 34,000; total, 16,224,731 and 18,968,000. Last year's vintage was a record, but the present vintage will exceed it by well over 2,000,000 gallons, each wine-producing State showing an increase.

South Australian Conditions.

After dealing with other subjects of interest to delegates the Secretary stated that the South Australian viticultural Expert (Mr. D. G. Quinn) had reported that the 1927 vintage would establish a record as regards the annual wine production, and would exceed 15,000,000 gallons.

The Sultana crop had also been good. For the past 10 years vineyard production had represented 8.5 per cent. of the total estimated value of the crop productions of South Australia, but a notable rise should be observable this season. The rainfall for the 12 months preceding the vintage had been a trifle higher than that preceding the 1926 vintage, but no loss from disease was suffered. After a long cool spring a severe and unusual heat wave occurred during January, and in some of the drier areas fully 20 per cent. of the crop was lost from that cause. In other areas where the vines were carrying more foliage the loss was only 2.3 per cent. A feature to be noted throughout South Australia was the marked keenness of vignerons to raise their vineyards to their maximum production, owing to the satisfactory future the industry appeared now to be facing.

The New South Wales Government Viticulturist (Mr. H. L. Manuel) reported a record vintage, and the Victorian Viticulturist (Mr. F. de Castella) estimated the vintage for that State at over 2,000,000 gallons.

Let the farmer for evermore be honored in his calling, for they who labor in the earth are the chosen people of God.—Jefferson.

ORCHARD NOTES FOR NOVEMBER.

(By C. H. Beaumont, Orchard Instructor, in the S.A. "Journal of Agriculture.")

NOVEMBER is the critical month for pests, both fungous and insect. The weather is the great controlling factor. Its action decides the increase or decrease of many of the pests we have to contend with. Dry, hot weather usually means immunity from pests; damp, humid weather means a quick increase. We should be prepared to meet the position.

Lime and sulphur compounds, wet or dry, are the best preparations to combat most of the fungous pests; to a smaller extent, they are also insecticides. The wet method demands pure water for mixing. It is a mistake at any time to use brackish water for spray work; do not use too strong a mixture. Copper salts are dangerous after fruit has set, and tend to cause a roughness, which is unsightly. They are necessary, however, in the case of downy mildew of the vine, and can be applied in dust form. This will control oidium as well. A good machine is necessary to force the dust well through the foliage, so that all parts are covered.

Arsenate of lead is the most useful control for chewing insects. It may be used wet or dry. Thoroughness of application is the secret of success. Spreaders are undoubtedly useful with wet sprays. They spread the mixture over the surfaces to be protected, and make them more immune from attack. The strength of the mixture depends on the insect to be destroyed. For codlin, 1 lb. of powder in 30 galls. of water should do all that is necessary; for curculio and cut worm, 1 lb. of powder in 10 galls. of water.

Cherry slug will need attention. Gather fruit first if possible. If very bad, dust lightly with air-slaked lime. Use arsenate of lead as for codlin when fruit is off.

Scald cases and trays before taking them into the orchard. All picking utensils should be perfectly clean before using.

Cincturing of vines should be done as the caps fall from the blossoms. Do not make a wide cut; make a clean cut and only through the bark. If the sap wood is cut, the vine will be damaged, and may die. Do not cincture weak vines. The use of grafting wax cloth strips over the cuts is a great advantage.

Fruit picking will soon be commencing, and much loss will be avoided if a few simple rules are observed. All soft fruits should be

picked into buckets or bags near at hand, and be put into cases carefully. Soft fruit and firm fruit should not be packed together. Bruised fruit is ruined fruit. No sensible person will buy it; therefore sensible growers will not offer it. It pays to cool all fruit before packing.

Keep the soil in fine tilth during hot months.

NUT CULTURE IN SOUTH AUSTRALIA.

THERE ARE around Adelaide, in the Edwardstown and Marion districts a number of commercial plantings of Almonds, and the most successful ones consist chiefly of three local seedlings, viz., Chelleston, and Joses No. 1 and No. 2, with a fair sprinkling of the usual varieties listed in most nurserymen's catalogues.

Although there are a lot of Brande's trees in most plantings, they are nearly all unprofitable as soon as the trees reach mature age.

In Walnuts I think I am safe in saying that there are not more than three growers in the State with more than a hundred trees of full bearing age, and none with a hundred worked trees of any age.

There are thousands of seedling trees scattered through our hills districts, many of them very profitable as individual trees, and in the south-east I know of a tree that gave an average return of £10 per annum over quite a number of years.

The deterring factor in commercial planting has of course been the virus disease known as Walnut blight (which in seedlings may take anything from 10 per cent. to 90 per cent. of the crop), and the impossibility of getting worked trees at any cost.

For some years I worked Walnuts, but found them a losing proposition. I am sure they cannot be grown at a profit at less than 10/- per tree, and the sale at that price amounts to practically nothing.

Personally I have a number of worked trees ranging from three to seven years old, mostly Wilson's Wonder, on both the Californian black stock and our own seedlings of the Persian type, and although the original imported tree is only about 14 years old it has borne five or six good crops, and is so nearly free from blight as to safely be called blight proof. Four-year-old trees last season carried up to ten pounds of fine Nuts.

The N.S.W. Department of Agriculture has, I think, done more than any of the States in the matter of trying out Walnut varieties.

Although Nut trees succeed admirably in many of the cooler parts of South Australia, there is literally no Nut industry in our State.—L. Wicks, Highbury, S.A.

NOTES FROM MARION, S.A.

Principal Fruits grown in the Marion District are Apricots, Peaches, Grapes, and Tomatoes (glass-house), all market or factory varieties, Almonds, Brandis or equal.

Crop anticipations are as follow:—Apricots: Medium crop, in good condition, not affected by frost.

Peaches: Heavy to medium crop, not affected by frost.

Grapes: Table Muscatels, good; some distillery varieties light, very little damage by frost.

Tomatoes: Mostly in glass-houses, and looking well.

Almond crop very good.

Red Spider on Almonds and Plums is one of the worst insects. Other diseases on stone fruits and vines are well in hand.—Estate of the late George Western, Muscatel Vineyards, Marion, S.A., 14/10/27.

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

SCIENTIFIC CONTROL OF PESTS.

Visit of Dr. Tillyard.

Dr. R. J. Tillyard, Director of the Cawthron Institute of Scientific Research, at Nelson, New Zealand, is at present visiting Australia at the request of the Federal Government, to advise on the control of insect and plant pests. Dr. Tillyard has had wide experience in this work of the biological control of pests, and it was through his efforts that the woolly aphid parasite (*Aphelinus mali*) was introduced; this has practically eradicated the woolly aphid pest in New Zealand, and has done good work wherever introduced in Australia.

Dr. Tillyard is now working on the insect control of the blackberry pest in New Zealand. In Australia he will deal with the sheep blowfly pest, which costs Australia something like

Classified Advertisements

Wanted and For Sale.

Prices for Advertisements under this heading are as follows:—

Casual Advertisements, one to six words, 2d. per words. Contract Advertisements, twelve months, 1½d. per word.

AN UNUSUAL OPPORTUNITY.

Orchard for Sale.

Combined with an assured income of over £3 (three pounds sterling) weekly from mail service and small Post Office; 12 acres orchard. Apples and Pears, all best varieties, young trees in full bearing. Present owner in occupation some years. Now retiring. House large, in first-class order. Suitable for boarding house or flats for tenants. Nice garden; tourist district within 50 miles Melbourne; splendid local market; motor sprayer, all necessary implements; cows, horses, vehicles, etc. Excellent proposition; moderate figure; easy terms, or exchange suburban property.—Apply, "Bargain," c/o. "Fruit World."

£4,000,000 a year, and St. John's wort, which has rendered practically valueless 150,000 acres of the Ovens Valley, in Victoria. A number of insects have been found which feed exclusively upon the wort, and Dr. Tillyard believes that in ten years the pest will be completely eradicated.

A NEW PRESS FOR FRUIT CASES.

To facilitate the nailing and wiring of fruit cases, a new type of lid press, known as the Adeco Lid Press, has been invented by an orchard inspector of the New Zealand Department of Agriculture, and is being generally adopted in New Zealand, where the use of the standard softwood Canadian bushel case has been made compulsory for next season. This type of case, which is also the standard in South Africa and Canada, is coming more and more into general use in Australia, and the new lid press should prove a great help to growers.

The press is very simple in construction, and may be used on any bench or in the orchard. In addition to bringing the ends of the lid down gently and holding it in place for nailing, the press is provided with a turntable on which the case may be swung round, leaving the ends clear for wiring. In this way much time and labour in lifting is saved. The Australian agents for the Adeco Lid Press are the Gerrard Wire Tying Machines Co. Pty. Ltd.; branches in all States.

Control of Pea Mite (*Notophallus Bicolor*)

Successful Experiments in Victoria and W.A.

Mr. C. French, Jr., Government Entomologist, Victoria, advises the following treatment:—

When the plants are first coming through the soil, the field is dressed with any of the following materials which may be most convenient. These kill the mites present in the field.

- (a) 1 part of 15 per cent. carbolic powder, 4 parts superphosphate. Broadcast over the plants and worked into the soil at the rate of 1½ cwt. to 2 cwt. per acre;
- (b) "Pestend" (tobacco dust) and lime in equal parts used in a similar manner,
- (c) Nicotine sulphate spray, 1 pint in 100 gallons of soapy water.

To prevent further invasion, a border of creosote round the boundary of the field will not allow the mites to cross. A thin layer, about 4 inches wide, just covering the surface of the ground, is all that is required, and the mites will not cross it for about three weeks.

The creosote may be applied with a watering can with a very fine rose, a gallon being sufficient to do about 150 yards.

W.A. Experience.

Investigations have been conducted in Western Australia by the Economic Entomologist (Mr. L. J. Newman) in regard to the Pea mite or red-legged earth mite. As a result of efforts to discover a cheap and effective dust or spray for the destruction of this pest, it has been found that it may be destroyed with phenyle. A number of experiments with various strengths of phenyle have been made. It was proved that, used at the rate of one part to 80 parts of water, the mite was destroyed. Even at 1 to 100 many were killed. Taking into consideration the variable strengths of phenyle, it is recommended at 1 to 80. In the experiments made, any strength greater than one in 50 burned tender foliage.

This treatment is cheap and effective and does not cost more than three-eighths of a penny per gallon. It can be applied to crops of Peas, Potatoes, etc., by means of a Potato spraying machine, and to lesser crops by smaller pumps or syringes. The effect upon the mite is rapid. Within 30 seconds of the application the mite becomes paralysed, the legs failing to function. Within two hours of application all mites so treated were dead. The mite did not need to be

actually brought into contact with the spray to be killed. A number were placed in an observation glass in which a small tube of solution of 1 in 80 of phenyle was placed. Within two minutes all the mites had ceased to move, and finally died; although they had not come in contact with the liquid. The top of the observation glass was left open. A further test was made by spraying a pad of absorbent paper with the 1 in 80 solution. This was at once absorbed by the paper; a number of the mites were then shaken on to the paper and within two minutes they had ceased to move and finally died. Three other species of mites were likewise treated, but the fumes appeared to have no effect upon them.

The Red Spider.

The red spider (*Tetranychus telarius*) appears to be also sensitive to these carbolic fumes. It is the intention to test this spray against this pest also.

In the use of the spray care must be exercised. It is not advised to apply it to salads and other vegetables, the leaves of which are used for food. Such plants should be treated to within about four weeks of cutting. If applied later a disagreeable flavor would be imparted. When plants have become strong and vigorous they are not usually seriously infested by the mites. If they are they should be jarred when the mites will fall to the ground and may there be sprayed, without the foliage being tainted. White flowers may be somewhat stained if sprayed with phenyle. The cost of phenyle in drum lots is about 2/6 per gallon. Being a cheap spray it can be used in liberal quantities. Success with this spray will be greatest if it is used in autumn, when the mites first issue. There is little growth then under which they can shelter, hence it is easier to get at the pest. At this season of the year there is much growth, which renders it difficult to get the spray close to or upon the bodies of the mites.

EXPORT OF GRAPES AND CORK PACKING.

The following interesting particulars have been supplied by the responsible officers of the Fruit Branch of the Department of Agriculture concerned.

Victoria.—Ohanez is the only grape shipped from this State in any quan-

tity. This variety ripens its fruit about the end of March. Shipments are usually made about the middle of April: a little earlier, or later, according to season.

Grapes shipped so far have been mainly packed with cork filler, the case (¾-bus. capacity) containing about 26lb. grapes and 4lb. granulated cork.

The total pack exported only amounts, at present, to 2,000 or 3,000 cases a year, but enough Ohanez grapes are grown for a potential pack of some 50,000 cases of this variety (sizes as above). Hitherto there has been a fair demand for Ohanez grapes on the local and Interstate markets, and only a small proportion of the grapes grown has been exported.

The prices ruling for cork filler are between £30 and £40 per ton, according to sample.

South Australia.—At the present time the export of grapes from South Australia is very limited, being confined principally to a few hundred cases of Ohanez or White Almeria grape, which is packed in granulated cork for this purpose.

The case used holds about ¾ bus. of cork and grapes, the grapes weighing between 20 and 25 lbs., and the cork 4 to 5 lbs. in each case. The price paid for granulated cork during the last couple of years has approximated to 6d. per lb. when purchased by the bale.

The grapes shipped from this State have been principally sent to Britain and the East.

Western Australia.—For the year ended June 30, 1927, the number of cases of grapes exported was as follows:—

	Cases.
London	14,461
Manchester	291
Colombo	7,306
Port Said	206
Batavia	1,285
Singapore	11,839
Sourabaya	2,817
Samarang	5

Total for the year . . 38,210
The cases used were the ¾ flat bus. cases mentioned in Regulation 47 of Statutory Rules 1926 No 22, under the "Commerce Act," the inside dimensions being 24in. x 11½in. x 6in. clear of divisions, and containing about 28lb. of fruit.

The grapes were packed and forwarded from 14th January to end of June, and granulated cork was used for packing purposes; the weight of same in each case approximating 4lb. The growers paid from £50 to £55 per ton for the granulated cork.



Increasing the Yield of Citrus Trees

(By R. J. Benton, Senior Fruit Instructor, in the "Agricultural Gazette" of N.S.W.)

FOR SOME YEARS it has been noticeable that Citrus trees receiving large supplies of farmyard manure, or similar material supplemented with various fertilisers containing more or less nitrogen, phosphoric acid, and potash, have been more consistent in cropping than similar trees not treated so favorably.

At first sight, such increased yield might be regarded as due to the organic matter supplied, but while organic matter is certainly of very great assistance and is necessary, other growers who have not been able to do more than rely on occasional green manure crops with occasional applications of nitrogenous fertilisers are obtaining excellent results also.

The deductions to be made from such experiences appear to be that nitrogen is the main fertiliser required, and is responsible for the increased productivity of the trees. Phosphoric acid and potash may be necessary, but the value of these is certainly not very apparent, and very small applications are sufficient.

Organic matter, however, is essential, for in its absence little benefit can be derived from commercial fertilisers. It may be that in the conversion of organic matter into humus, chemical changes free sufficient phosphoric acid and potash for the requirement of Citrus fruits.

During recent years in California, where Citrus production has been widely studied as a business, the consensus of opinion of many investigators is expressed in a bulletin by R. W. Hodgson. He states that in Californian experience nitrogen is the only element, and organic matter the only other material which have been

demonstrated to give measurable improvements in yield and tree health. He adds that applications of phosphorus and potassium have been made for six years, and no measurable improvement has been noted in certain experiments.

About 200 lb. of nitrogen per acre is the amount recommended for young bearing trees, half of which amount is preferably applied in an organic bulky form, and the remainder in an inorganic or chemical form. For older trees—12 to 20 years old or more—the applications may be increased to 300 lb. of nitrogen per acre.

Such applications of nitrogen will appear tremendously heavy to many growers, especially when it is realised that the following amounts of fertilisers are required to provide 100 lb. only of nitrogen per acre, viz., dried blood, 833 lb.; blood and bone, 2,000 lb.; nitrate of soda, 666 lb.; sulphate of ammonia, 500 lb. Hodgson remarks that it does not appear to matter which of these nitrogenous manures are used. They all appear to give similar results, providing that they are applied in time for the tree's requirements.

Very few, if any, of the growers in this State have used applications so heavy as that stated; but on the Irrigation Area several growers have fertilised with sulphate of ammonia up to 8 lb. per tree, applying the whole in one application late in the winter. At a recent meeting of the Research Bureau, at Griffith, Mr. E. S. West recommended applications up to 8 cwt. per acre for trees up to 12 years old.

Mr. H. J. Braund, of Griffith, has conducted experiments for some years, and his experience is that

trees which have been manured thus heavily have produced excellent crops this season, the quality of the fruit being excellent and not in the least inferior to that borne by trees manured with other than nitrogenous fertilisers, while the crops on trees manured with the latter are light.

Mr. W. B. Stokes, in last month's "Agricultural Gazette," reports on the excellence of the results obtained from nitrogen at Narara. Other instances are also on record where a few trees only, treated during the past season or two with nitrate of soda or dried blood, the latter at up to 20 lb. per tree, have given superior results as regards yield and health of trees.

At this time of the season it is particularly opportune to draw attention to the need of manuring, and the recommendation made by the California authorities, supported by the advantages noted amongst several growers on the Murrumbidgee irrigation areas and in our coastal districts, should commend to all growers the practice of increasing the nitrogen supply. Citrus trees will only return a yield in proportion to the amount of plant food available. On many orchards it would be more economical to apply all the manure possible to half the number of trees. That is, half the trees well fed will produce much more and better quality fruit than the whole lot partially starved.

On the results so far noted trees up to eight years old growing under average conditions may receive up to 1 lb. of nitrogen, up to 12 years old 2 lb. of nitrogen, and up to 20 years 3 lb. nitrogen. It is desired to again stress the necessity of not omitting organic material—bush scrapings, new soil, farmyard manure, or green manuring, preferably of a nitrogenous nature, in order to reduce the necessity for so much nitrogen in the chemical form.

As to when the fertilisers should

be applied, much will depend on the district, soil, and local conditions. Generally speaking, the trees remain in a dormant condition during the winter, but as spring advances a growth is made on which blossom buds develop. Blossoming and fruit setting results. The production of further growth follows, and after that hardening off; further growth and production throughout the summer and autumn ensues until the trees gradually subside into a fruit-maturing and more or less dormant stage through the winter. According to situation and climatic conditions, most growth is usual in the autumn. The reason for this would appear to be very closely related to the supply of plant-food available during the seasons.

Frequent analyses of soils made throughout the year in California revealed that changes in the nitrate content of the soil were continually occurring. Whilst such changes are influenced somewhat by cultural treatments and seasonal conditions, generally speaking the nitrates (which are the only form of nitrogen of use to trees) are lowest in the winter and early spring. As summer advances, the supply is more plentiful, until a maximum is reached in autumn. It will be seen that when Citrus trees push forth their growth in the spring, with the blossom buds, a very poor nitrate supply is naturally present to assist the tree. Neither is the supply very plentiful throughout the fruit-setting period, but later on in the autumn it is usually abundant.

It seems obvious, therefore, that if nitrates are not present naturally when the tree is making a heavy demand for them, as is surely the case during blossoming and fruit-setting, a larger proportion of blossoms must be starved off. The best preventive of this will manifestly be an artificial supply of nitrates. The nitrogen fertiliser most prompt in this respect is nitrate of soda, which should be applied immediately prior to bud-bursting. Sulphate of ammonia and dried blood, having each to be converted into nitrates, should be applied at least a month prior to bud-bursting. Green leguminous crops which supply a proportion of nitrogen should be turned under at least six weeks prior to the first bud-burst.

As to whether the fertilisers should be put on in one or more applications is dependent on several factors. In some places the rainfall is low and the soil retentive. In such cases one application will probably give as good results as two applications. But in other districts where

leaching may be experienced, or where heavy falls of rain are apt to occur, the application should be of greater benefit if distributed in two or three amounts, the first being the heaviest. The second or third applications should be made by December, especially in districts subject to frosts. It is necessary that the growth of trees be well hardened before winter.

Though a certain kind of nitrogenous manure may be found to be especially suitable for particular soils, it will probably be found most advantageous to vary the kind of fertiliser after two or three seasons for a year or two. The nitrogen content of the application, however, should be noted, and the quantity applied should vary in accordance with the source of nitrogen. In other words, if 2 lb. of nitrate nitrogen, supplied in the form of sulphate of ammonia gives good results, and it is decided (in obedience to the need for change occasionally) to use dried blood instead, it will be necessary to apply a greater weight of dried blood than of sulphate of ammonia to afford the same quantity of nitrate nitrogen. Dried blood contains about 12 per cent. nitrogen, and sulphate of ammonia 20 per cent.

For growers who believe that phosphoric acid and potash are necessary to their trees, a good mixture is as follows:—

6 cwt. sulphate of ammonia.

3 cwt. superphosphate.

1½ cwt. sulphate of potash.

This mixture may be applied at the rate of 1 lb. per tree for each year of the tree's age. Thus, a 10-year-old tree would receive 10 lb. of this mixture, which would contain 1.1 lb. nitrogen, .6 lb. phosphoric acid, and .7 lb. potash.

Many growers purchase ready-mixed fertilisers for their Citrus crops. Whilst such practice has its advantage, in that small quantities of individual fertilisers are not obtained, and the labor of mixing the ingredients is avoided, it is sure that the method is not an economical one.

When a ready-mixed fertiliser is applied it may prove of benefit to the trees or crop. In all probability, however, the benefit is provided by only one of the ingredients of the fertiliser. What then becomes of the rest of the material? The experiences quoted earlier in this article suggest that the purchase of the unused portions of the ready-mixed fertiliser has been a waste of money. It is therefore strongly recommended that growers should mix their own fertilisers and reserve an evenly grown lot of trees for a fertilising experiment on their own account.

The article, "Manurial and Fertiliser Practice in Citrus Production," by Mr. W. le Gay Brereton, which appeared in the "Agricultural Gazette" of March, 1927, should be read in conjunction with this one.

Summarising, growers are recommended to increase the nitrate content of the soil with the object of improving the production and the quality of Citrus fruits. This can be effected by—

1. Providing the best cultural treatment possible at the correct time.
2. Providing an ample supply of humus by applying organic matter and growing green manure crops.
3. Supplementing the nitrate content of the soil by applications of nitrogen as already stated.

FLORIDA GRAPEFRUIT PRODUCTION TREBLED.

Grapefruit canning in Florida more than trebled previous production records during the 1926-1927 citrus season, the "Tampa Tribune" states. It estimates that a total of at least 700,000 cases were canned during the past season, as compared with the previous high mark of 225,000 cases in 1925-26.

The estimate was based on returns from seventeen of the twenty-two canners operating in the State, which showed a total output to date of 671,000 cases. Officials connected with the citrus industry predicted that the returns from the remaining five canneries will place the figure beyond the 700,000 mark.

During the season of 1922-23 the total number of cases of canned grapefruit produced in Florida was 189,250. In the season of 1923-24 production dropped to 98,986, to rise again in 1924-25 to 134,934. In 1925-26, the production was 225,000, which stood as a record until the figures were announced for the current season.

A NEW APPLE.

Excellent Keeping Qualities.

The N.S.W. Department of Agriculture has received from Oregon (U.S.A.) some samples of Richared Delicious Apples, which originated there. The fruit had been in cold store since last November, and was still in good, firm, sound condition. It is as highly colored as the best Buncombe. The Department considers that the variety would be an acquisition, and is importing a few trees of it and others, which will be grown in quarantine and tested.

New South Wales

Fruitgrowers' Federation and Agents Crop Prospects
Codlin Moth Regulations District Notes.

N.S.W. FRUITGROWERS' FEDERATION.

New Board Active.

Discussion With Agents.

The newly elected Board of the Fruitgrowers' Federation of New South Wales held its first meeting in Sydney on September 22, the President, General J. Heane, occupying the chair. Delegates present were:—Messrs. H. S. Wark, A. U. Tonking, T. A. Tester, H. V. Smith, F. Helson, R. Hill, T. C. Morrison, G. H. Wilson, A. Dunstan, W. W. Challis and the Secretary (E. E. Herrod).

Citrus Regulations.

As the outcome of a request from the Hawkesbury and Nepean Federated Associations, it was decided to ask the Department of Agriculture to suspend the operation of the Citrus-grading regulations for this season, with the object of having certain necessary amendments made in the meantime. It was also decided that a Sub-Committee representing the Citrus-growers on the Board consider the amendments to be recommended.

Citrus Research Station.

Consideration was given a recommendation from the conference that the Government be asked to establish a Citrus research station in the Gosford district, which would pay special attention to bud selection.

The Secretary reported that he had been in touch with the department in regard to the matter, and had been asked for details as to what were considered the most pressing problems. Information was now being sought throughout the Central Coast district.

Mr. Hill said that there was manifest deterioration of Citrus in many districts owing to the difficulty in securing selected buds. A research station could find suitable trees in various orchards from which buds could be obtained to be supplied ultimately to growers through nurserymen, who would purchase buds only from approved orchards.

It was decided to form a Sub-Committee to submit specific reasons for the establishment of a research station.

Financial Position.

The Secretary submitted a report disclosing the financial position, this showing an unexpended balance of £1,207/10/8.

In preparing estimates of expendi-

ture for the ensuing year, £1,250 was allotted for organising and £300 for publicity purposes. The other items were agreed to on last year's basis.

Vice-Presidents.

Messrs. Wark and Wilson were appointed Vice-Presidents for the ensuing year, and the following Executive Committee was appointed:—Messrs. Wark, Wilson, Hill, Dunstan, with General Heane ex officio member.

It was decided to ask for stricter inspection of disease-harboring Citrus, pome and stone fruit trees, and Grape and Passion vines, particularly in "back-yard" orchards.

On the suggestion of Mr. Tester, a Sub-Committee consisting of Messrs.

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

Tester, Tonking and Hill, was appointed to consider a plan for bringing growers and agents into closer co-operation. A further Sub-Committee was appointed to consider the relationship of the railway authorities to the fruit industry, particularly in regard to the sale of fruit on stations.

Fruit Agents and the Act.

A deputation from the Fruit and Vegetable Agents and Merchants' Association waited on conference and outlined their plans for an amendment of the Act.

Representatives of the Association stated that they agreed with the principle of registration and the fidelity bond, although in regard to the amount of the bond they had not considered the question of its increase.

In regard to the necessity for keeping trust accounts and paying growers within 14 days, it was con-

tended that an amendment was necessary. There was great difficulty in preparing the form of a trust account, as agents had to give credit and their legal advisers had given opinions that they need not pay growers until buyers had paid for fruit purchased. Although agents had been observing the Act, they had actually made payments from their own resources. They considered that the registration and the fidelity bond were sufficient safeguards for growers, and if the trust accounts were insisted on, the extra cost involved would have to be paid by the producer.

They also objected to the system of detailed inspection of books and accounts by inspectors, it being humiliating as well as inconvenient to have their offices invaded and occupied sometimes for days by these inspectors. They suggested that inspections of accounts only be made at the request of growers.

In view of increased rents and other costs, and the fact that they had to finance and guarantee payments to growers, they desired to increase the rate of commission for their agency work from 7½ per cent. to 12½ per cent.

At a further conference of the Board and the agents, these questions were discussed exhaustively, and it was decided to recommend the adoption of shorter credits, a standard agreement setting forth the terms and conditions of business between grower and agent, and a less irksome system of inspection of agents' books, the inspection to be done only by men sworn not to divulge any information so obtained. On the question of cash guarantees, the agents stated their Association would be willing to provide a cash guarantee of say £10,000 on behalf of its members, provided the Fruitgrowers' Federation would consign their fruit only to members of the Association. The Federation agreed to urge its members to adopt this course. It was stated that there were 90 agents in the Association, about 150 outside, and 15 merchants.

The question of commission caused considerable discussion, and no decision was arrived at, although a favorable reception was given to a proposal that the commission should be on a sliding scale according to values received. That would mean a certain rate if prices realised were at a fixed minimum, the charge decreasing with the increase of price.

The representatives of the Association agreed to put the matters discussed before their members and en-

deavor to decide upon definite formulae for the mutual benefit of all concerned.

N.S.W. FRUIT CROPS.

Prospects Bright on the Irrigation Areas.

After making a close inspection of the orchards on the Yanco irrigation areas, Inspector Goodhew, of the Department of Agriculture, stated recently that on the present showing the prospects are very bright for a bountiful harvest of all varieties of fruits. The intermediate Cling Peaches, which up to the present have been regarded as shy bearers, have set well, showing a full crop. Other varieties of Peaches, also Apricots, are going to yield big crops if nothing untoward happens to give them a setback.

Mr. Goodhew also reports the area being free of pests such as aphid, thrip and cutworm, which are usually troublesome at this time of the year. Regarding frost, the Yanco irrigation area escaped without much damage. Mr. Goodhew estimated the reduction of crop at five per cent., but such thinning out was rather an advantage on account of exceptional setting of fruit.

Orange and Bathurst seem also to be among the fortunate fruit centres. The Cherry crop at Orange was not touched by the frost, but that at Young was severely damaged.

Mr. G. W. Beverley, senior Fruit Instructor, of Griffith, stated recently that by present appearance, on the Mirrool Area, there would be a splendid crop of Peaches, and the damage by recent frost to Sultanas, vines, Citrus and Apricots was not as serious by a long way as was at first estimated.

NOTES FROM GLENORIE.

After a record winter drought, accompanied by the coldest weather for over 20 years, 220 points of rain were recorded between September 29 and October 1, which improved the outlook. This is a Citrus district mainly. The Orange trees are now in blossom, but most Mandarins are only just showing the first signs of bloom. This is five to six weeks later than usual.

All varieties of Apples and Pears have shown a record bloom, but it is too early to estimate the setting.

Early Apricots and Peaches are good to heavy; Early Plums, fair to heavy.

It is too soon to estimate mid-season stone fruit crops. Late frosts

have done damage on some low-lying areas. Practically all the main Citrus crop has been marketed, excepting Late Valencia Oranges, which are a very light crop. Many orchards have a heavy off-crop of Oranges, which are of good quality, and are being marketed at very satisfactory prices. Since the rain, this fruit has filled up very well.

The heavy frosts have damaged large areas of Passion Fruit vines in the district, which will probably result in a short supply of this popular fruit next season.—F. A. Nicolson, Glenorie, N.S.W.

Brand Your Fruit Cases and Bags with

CALDWELL'S STENCILLING INKS

(In Cakes and Liquid)

QUALITY UNSURPASSED

Obtainable All Merchants

Local Agents Wanted

CALDWELL'S PTY. LTD.

Yarra Bank Road

South Melbourne, Vic.

CODLIN MOTH.

New Regulations for Control in N.S.W.

The following new regulations under the Plant Diseases Act, 1924, have just been gazetted, and owners and occupiers of land on which Apples, Pears, or Quinces are grown will do well to make themselves conversant with what the law requires of them in the matter of treating and preventing the spread of codlin moth.

The regulations require growers to:—

1. Thoroughly spray all Apple, Pear, and Quince trees and suckers three times every year with arsenate of lead in the proportion of not less than 20 oz. of dry arsenate of lead powder, or 40 oz. of arsenate of lead paste, to 50 gallons of water, at the following times, viz., the first spraying to commence when the first signs of the closing of any of the calyces are visible, and to be completed within five days, the second spraying to be commenced a fortnight after the completion of the first spraying,

and to be completed within seven days after its commencement, and the third spraying between the twelfth and eighteenth days of December.

2. Keep all Apple, Pear, and Quince trees free from loose bark and broken limbs, and keep all crevices or cavities in such trees free from the larvae of *Cydia pomonella* (codlin moth), and destroy by burning all litter arising from the removal of the loose bark and broken limbs and from the cleaning of the crevices and cavities.
3. Collect and remove all fallen Apples, Pears, and Quinces in infested orchards at intervals not exceeding three days.
4. Destroy all infested Apples, Pears, and Quinces at intervals not exceeding three days by boiling for ten minutes, or by burning.
5. Maintain round the trunk of every Apple, Pear, and Quince tree, from the first day of the month of December in each year until removed at the time hereinafter provided, a bandage of twill sacking (i.e., wheat sacking) of a weight of not less than 15 oz. per yard of 26½ inches width, each bandage being: (a) not less than 8 inches in width; (b) folded once with the opening of the fold facing downwards; and (c) clear of the ground at its lower edge.
6. When more than one limb of any Apple, Pear, or Quince tree arises from the ground, or where any limb arises from a main trunk less than 5 inches from the ground, maintain round each of such limbs in the manner, and for the period specified in the last preceding paragraph a bandage of the material specified in that paragraph.
7. Remove the bandages hereinafter referred to not earlier than the first day of June, nor later than the first day of July in the year following that in which they were placed on the trees.
8. Destroy all larvae of codlin moth within or under the bandages at the following times, viz.: (a) At intervals not exceeding 14 days during the period between the first day of December every year and the twenty-third day of February in the following year; and (b) at the time of removing the bandages.

It is better to go straight than to move in the best circles.

Queensland

Crop Prospects - - - Orchard Operations
(Notes by Our Correspondent)

QUEENSLAND CROP PROSPECTS.

A GENEROUS RAINFALL throughout the fruit-growing districts has recently been experienced. The effect is already reflected in the foliage of Citrus trees, which have a particularly heavy setting of fruit, and rains have been experienced at a most opportune time for its retention and development.

A dry atmosphere is most favourable for the "setting" of Mango Fruit, and this having been experienced during the flowering season a heavy crop can be expected. Unfortunately the average Mango is not of good quality, in fact it is doubtful if 5 per cent. of the crop could be rated as first class. As the inferior types only come true from seed, and the difficulty in raising worked plants warrants a price for these which the average planter declines to pay—when he can collect common seedlings gratuitously, the prospect of general improvement in quality is indifferent. Whilst so many other fruits can profitably be included, the Mango is unlikely to receive the attention warranted.

Bananas.

are amongst the first to evidence the effect of insufficient moisture and to respond to a liberal supply; the pale colour vanishes from the foliage, and young leaves make prompt appearance. Up to almost the end of September the rainfall was most disappointing, and crops suffered severely in consequence. The growth and consequently production on young plantations were much retarded.

A large area is now being planted, and other lands in course of preparation. Given favorable conditions, the output can be expected to shortly be increased by fully 40 per cent.

An appreciable increase in Pineapple production is evident, and enquiries for Pineapple land are frequent. In the southern district there is but very little available, and unfortunately much land has been put under pines during recent years that really was not worth the expense of clearing. This applies particularly to land selected for soldier settlement, where of 700 odd pineapple farms not 10 per cent. could possibly have been maintained in profit, and undergrowth now marks the site of abandoned

plantations and blighted hopes. As a whole the land was too poor to grow weeds, so that it could not possibly be overrun thereby.

The Bowen District, with its even climate and fertile, even lands, offers special advantages for pineapple production, which is only availed of to a very limited extent. Tomatoes have been the principal export for many years, and a consistent and lucrative trade has been conducted with the Southern States.

MARGETSON & CO. LTD.

Fruit Importers &
Salesmen

30 James St. and James
St. Warehouses,
11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House,
9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

Bowen also exports the best quality Mangoes sent from this State.

A common, but erroneous idea, exists that all tropical fruits to grow to perfection require a high degree of humidity. Though this applies to the Banana, its application is not general. In the Innisfail district, which has second place in the world's record of rainfall, Mangoes seldom produce any

quantity of fruit, and these are insipid.

Pineapples develop large, soft fruit which will not stand transport. A dry atmosphere during development is essential to quality of these well-known as well as other less distributed fruits, including the Pawpaws, and this is a typical feature of the Bowen climate.

During times of drought references to irrigation are frequent, but disappear under the influence of rainfall. It is extensively practised in the canefields of Ayr, and to some extent in the agricultural areas of Bowen, where abundant supplies of water are available at a depth of a few feet, and the even grades of the lands offer most economical means of its distribution. That the natural advantages are so sparsely availed of can only be attributed to their being so little known.

ORCHARD NOTES FOR NOVEMBER.

The Coastal Districts.

NOVEMBER is somewhat of a slack month for fruit in the coastal districts, as the Citrus crop, excepting a few Valencia Late Oranges, off-season Lemons, and a few Limes, is over. Pineapples are also scarce, as the late spring crop is finished, and there are only comparatively few off-season fruits ripening. The main summer crop of fruit in the principal producing districts is only in the flowering stage, though that in the more tropical parts is ready for marketing. It is also a slack month for Bananas, as the summer fruit is not yet fully developed, and the bunches that make their appearance are usually poor. They have been slow in developing on account of the comparatively cool weather of winter and early spring, when the suckers were more or less at a standstill.

Young suckers should, however, be making vigorous growth now, and the plantation will require constant attention to prevent the stools being overcrowded with too many suckers. Keep the land well worked and free from weeds of all kinds, as good growth now means good bunches in the autumn and early winter. Where there is a danger of the soil washing badly with heavy rain, rows of Mauritius, velvet, or other suitable Beans should be planted at right angles to the fall of the land, as the growth they make will tend to hold the soil and thus save any from being washed away. When planting Beans of any kind, either to prevent washing or for green manuring, don't for-

get to manure them, as thereby you will get a much greater yield, and as none of the manure is removed from the soil, as the crop is allowed to lie and rot on the ground, it is all made use of eventually by the permanent crop.

A good all-round manure for a Bean crop is a mixture of 1 cwt. of sulphate of potash and 4 cwt. of basic superphosphate or finely-ground phosphatic rock to the acre, and, if the soil is deficient in lime, a dressing of not less than half a ton to the acre will be found very beneficial, as all leguminous plants require lime to yield their maximum return both of haulm and pulse.

The Pineapple plantations require to be kept in a state of thorough tilth, and no weeds must on any account be allowed to grow. If blady grass makes its appearance it must be stamped out, as once it gets established in the rows it is only a short time before it takes control, and the plantation is ruined, so that it can only be brought back into profit by taking out the Pines, killing the blady grass, and, after thoroughly and deeply working the land, manuring it and replanting.

The planting of Pineapples and Bananas can be continued throughout the month, taking care to see that the land is properly prepared, and that the advice given in previous monthly notes is followed. Young Papaw plants that have been raised in the seed bed can be set out now, as also can young Passion Fruit. Citrus orchards require to be well looked after; the ground must be kept in a state of thorough tilth, and if the trees show the slightest sign of distress, owing to lack of moisture in the soil, they must be given a thorough irrigation if water is available for this purpose. The trees should be carefully examined from time to time so as to note when young scale insects of any kind are hatching out, and when this is noted they should be sprayed with a weak emulsion of a miscible oil consisting of one part of oil and 40 parts of emulsion, as this is quite strong enough to kill any young scales before they develop their protective covering. As stated previously, no oil sprays should be used when the trees are suffering from lack of moisture, as they are then likely to do more damage than good to Citrus trees. If scale insects are very bad, and it is important that the trees are sprayed, a weak lime-sulphur spray, or even a soap and tobacco or weak resin wash, will kill the young scales as they hatch out.

In the earlier districts a keen look-out must be kept for the first appear-

ance of the mites, which are the direct cause of the darkening of the skin of the fruit known as "Maori." The first indication of the trouble is that when the sun is shining on the young fruit, it appears to be covered with a grey dust, and if the fruit is examined with a good lens it will be seen to be covered with large numbers of small yellowish slug-like insects which are living on the skin. Spraying with sodium or potassium sulphide washes, as recommended by

growers, as provided by the Diseases in Plants Act, there will be many less flies to attack the later crops of Mangoes and other fruits.

Leaf-eating insects of all kinds should be systematically fought wherever seen, by spraying with arsenate of lead, and Potatoes and Tomatoes should be sprayed with a combined spray consisting of Bordeaux or Burgundy mixture and arsenate of lead, so that diseases such as early blight and Irish blight may be prevented and leaf-eating insects, which frequently cause very heavy losses to these crops, be destroyed.

The Granite Belt, Southern and Central Tablelands.

Keep the orchards and vineyards in a thorough state of cultivation, so as to keep down all weed growth and conserve moisture in the soil. This is important, as, if a long spell of dry weather sets in, the crop of summer fruit will suffer severely from the lack of moisture. Citrus trees should be irrigated where necessary, and the land kept in a state of perfect tilth.

Spraying for codlin moth should be continued, and all pip fruit trees must be bandaged at the beginning of the month; further, the bandages must be examined at frequent intervals and all larvae contained in them destroyed. The neglect to spray thoroughly and to attend to the bandages properly are responsible for the increase in this serious pest in the Granite Belt, and growers are warned that they must pay more attention to the destruction of this pest if they wish to grow pip fruit profitably.

Fruit fly may make its appearance in the Cherry crop; if so, every effort should be made to stamp out the infestation at once, as, unless this is done, and if the fly is allowed to breed unchecked, the later ripening crops of Plums, Peaches, Apples, Pears, Apricots, and Japanese Plums are bound to become more or less badly infested. Combined action must be taken to combat this, the most serious pest of the Granite Belt, and growers must realise that, unless they take this action and see that careless growers do not breed the fly wholesale, they will never keep it in check, and it will always be a very heavy tax on their industry. Rutherglen bug is another serious pest in this district, and is propagated by the million by careless orchardists. The best remedy for this pest is to keep the orchard clean and free from weeds. Brown rot in fruit should be watched for carefully, and, on its first appearance in a district, all ripening fruit should be sprayed with the sodium sulphide wash. — "Queensland Agricultural Journal."

SWANN & Co.
Established 1822.
A century's experience in handling
FRUIT OF ALL DESCRIPTIONS
All Consignments for U.K. will have
Personal Supervision and Attention
Account Sales and Cheques despatched immediately after sale.

3 SALTER'S HALL COURT,
London, E.C., England

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.
Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.
Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

SINCLARE
CARBONISED
SULPHUR
Spraying Mixture.

THE MOST EFFECTIVE
NON POISONOUS FUNGICIDE AND
INSECTICIDE YET DISCOVERED
DOES NOT BURN.
Manufactured by
SINCLARE & COY
BOX 3, KING ST. RO.-SYDNEY.
(Works, Alexandria)

the Department, or with a weak solution of lime sulphur, will destroy these insects and prevent the fruit from turning black. Borers of all kinds should be looked for and destroyed wherever found. Water-sprouts, if not already removed, should be cut away.

Vines will require careful attention, and the vineyard should be kept in a state of thorough cultivation. Spraying for downy mildew and black spot should be continued, if necessary, as well as sulphuring to prevent oidium.

Fruit fly must be systematically fought whenever seen, and special care must be taken to gather and destroy any early ripening Peaches or other fruit that may be infested. If this is done systematically by all

General Australasian Representative:

H. G. COLOMBIE

Temple Court, Collins Street, Melbourne

'Phone: F3284.

Telegraphic Address: "Columbine," Melbourne.

Over twenty years' experience in the marketing of fruit in the United Kingdom and on the Continent.

INCREASE Y

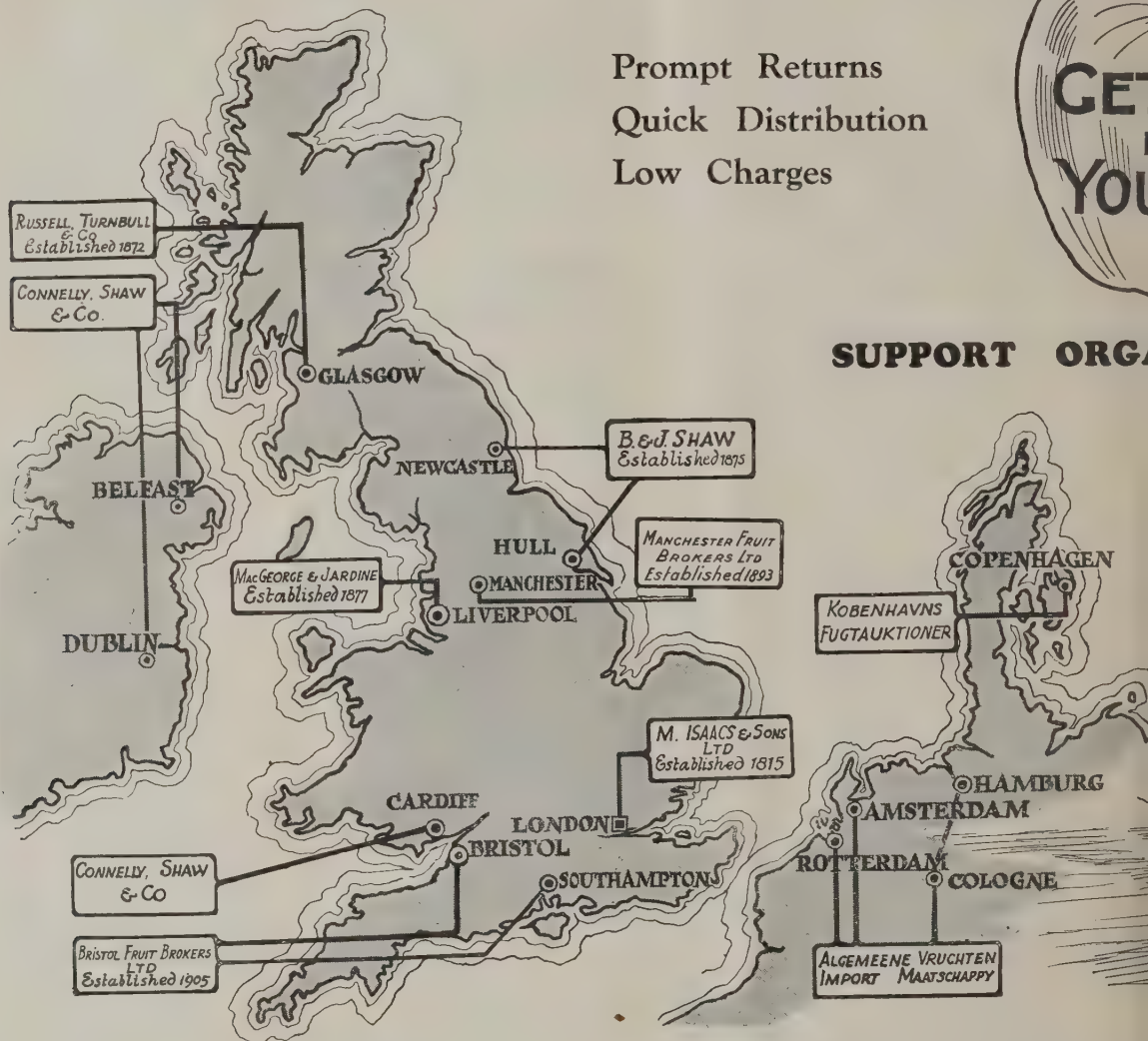
BY

COMPLETE AND

Prompt Returns
Quick Distribution
Low Charges

GET
YOU

SUPPORT ORGA



By entrusting the sale of their fruit to any of the firms dealing with Federated Brokers and obtaining the full benefit of above-board marketing.

The marketing of fruit is a complicated and delicate operation requiring experience and special skill. The Brokers referred to possess the

Every advantage of orderly marketing, regulated offering and knowledge of what happens to your fruit, is assured to you by a system of distribution not built up on paper, but created by generations of solid

OUR RETURNS

G THIS
ECT ORGANISATION

ORE
UIT

D MARKETING

For shipping space, advances, etc., apply to the Shipping Representatives shown on this map.

AUSTRALIAN GROWERS!

Profit by the experience of others, and **SUPPORT ORGANISED MARKETING.**

CENTRALISE the sale of your fruit **IN** the **ONE RECOGNISED AUCTION SALEROOM AT EACH PORT**, where Overseas Fruit is concentrated, and where large numbers of buyers attend regularly, ensuring **WIDE DISTRIBUTION.**

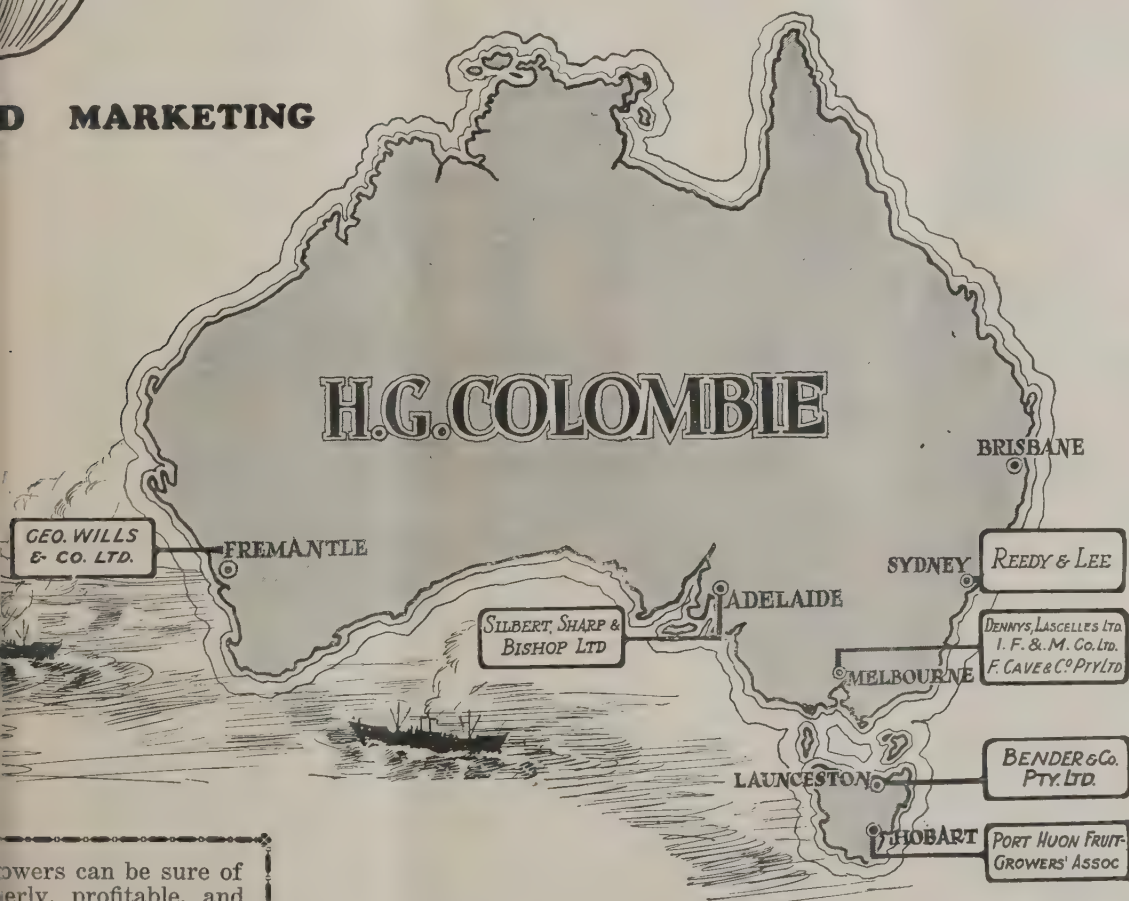
This **CONCENTRATION ENABLES BROKERS** to **REGULATE SUPPLIES** and **STABILISE PRICES.**

By this system **BUYERS** are **MADE** to **COMPETE** for the fruit to the **BENEFIT** of **YOUR RESULTS**; whilst by other methods Salesmen compete to obtain buyers.

CATALOGUES are printed for Buyers before sale, and reprinted after sale, **SHOWING ACTUAL PRICES PAID** for your fruit. No manipulation of results possible.

Parcels are sub-divided to enable all buyers to compete on equal footing.

Each parcel is valued by Auctioneer before sale, and lots not realising reserve prices are withdrawn.



owers can be sure of
erly, profitable, and
calling for great ex-

markets, and full
isation; an organisa-
practical experience.

Tasmania

Crop Prospects and District Notes. Orchard Operations.
State Advisory Board.

(By Our Correspondent)

ALTHOUGH GOOD RAINS have fallen in the north and north-west, very dry conditions are being experienced in the south and midland districts.

The warm dry weather experienced at the blossoming period, has especially favored the stone fruits, and except for a few areas which were affected by frost, the setting of Apricots and Plums is recorded as heavy in all districts.

Fruit Crop Prospects.—At the period of writing there is evidence that the prospects for the Apple and Pear crops look particularly bright. Orchards, owing to the fine weather, have been generally cultivated to a good tilth, and conditions for spraying, particularly the application of

Fruit Exports, 1926-27 Season.—The season will rank as one of the best that has been experienced during the last decade. Owing to the extent to which Apple and Pear crops in Victoria, South Australia, and New South Wales, were damaged by "thrip," adverse climatic conditions and other unexplained factors, the Tasmanian grower has throughout the season been unable to supply the market demands of Eastern States. The prices for overseas consignments have also proved generally satisfactory, and "berry" growers report that the good yields of Raspberries, Black and Red Currants, Strawberries, etc., have returned profitable prices at the factory.

Amongst the items and values detailed in the statistician's report in regard to exports, the following are worthy of attention:—

Value of—	
Fresh fruits exported ..	£1,145,197
Dried fruits exported ..	40,740
Pulped fruits exported ..	270,375
Jams and preserves exported	583,525

Total value fresh fruit and fruit products . . . £2,039,837

The total value of all other food-stuffs exported (wheat, peas, butter, bacon, dairy produce and potatoes), was £1,715,016. These figures will serve to indicate the importance of the fruit industry to Tasmania.

Fresh Fruits Marketing Act.—The results of the poll taken to decide whether this Act should come into operation show that the majority of growers are not in favor of such legislation.

The principal objections in this State were on the matters of representation (which is always contentious), and the growers' insistence that it was "Government Control," in spite of the Minister's (Mr. Paterson's) emphatic statement that the whole of the control would be vested in the growers.

"The Fresh Fruits Marketing Act" is hardly yet "cold" when representations are already being made to try and effect some improvements in the forwarding and selling of fruit upon the "overseas markets," viz., "Reduction of Consolidated Charges," and "Wrongful dispatch of fruit consignments." A new scheme of organisation is to be brought forward! The

persistency of the originators of these schemes is worthy of a better fate than has been meted to them. Whilst unanimity will never be attained, it is possible that in the dim future some agreement may be reached by the processes of elimination.

State Fruit Advisory Board.—The election of Producers' Representatives for Southern Districts will take place at the end of the month.

Nominations have been received for each of the five Divisions, and contests will take place in each for the seats which are to be filled upon the Board. The rolls which were compiled for the Municipalities participating in this election show that there are approximately 3,500 fruitgrowers eligible to vote (i.e., the owner or occupier of not less than one acre of orchard).

Until the election is decided, the members elected at the 1926 Conferences will continue to act as producers' representatives upon the Board.

ORCHARD OPERATIONS FOR NOVEMBER.

(By P. H. Thomas, State Fruit Expert.)

MOST ORCHARD SOILS have now been brought to a suitable tilth for conserving the moisture throughout the growing period. From now onwards it will be necessary to keep the harrows going, especially after a rain, so that the surface crust does not form. Attention to this matter will play an important part in the setting and development of the young fruits.

Spraying.

Black Spot.—The season during the past few weeks has not been conducive to the development of fungus diseases, particularly black spot, but growers should be prepared to combat possible infection. A close supervision should be exercised over susceptible varieties such as Cleopatra, Delicious, Sturmer Pippin, Crofton, etc.

If found necessary, the "delayed dormant" and "pink" sprays should be supplemented with a further application of Bordeaux (1-1-40) upon hard varieties, and lime sulphur (1-50) upon those of a tender skinned nature. It is not advisable to increase the strength above these formulae after the petals are fallen, especially if they have not been preceded by the earlier treatment.

Codlin Moth.—During the early portion of the month, the moths will be on the wing, and egg-laying will

Fruit Shipments United Kingdom and the Continent

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.
AND HOBART, TASMANIA

Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

fungicides, have been satisfactory, enabling the grower to effectively treat the varieties at the proper periods.

The early blossoming Pears have generally made a good setting of fruit, and toward the end of the month an early estimate of both Apple and Pear crops should be possible.

The general growth and development of the berry fruits were particularly favored by the preceding season, and the new canes give promise of the satisfactory yields which were experienced last season.

With favorable weather conditions, everything points to a record year. If this eventuates, and fruit prices are satisfactory, the industry, with the assistance of the 1927 returns, should be approaching the prosperous pre-war conditions.

have commenced in most districts. The first arsenate of lead spray should be applied at the calyx stage, i.e., before the calyx closes, as the early larvae show a preference to operate from this point in making entry into the fruits.

This is an important spray, and not only kills the early grubs, but also controls a number of caterpillars and beetles that attack and injure the young fruits. To obtain the best results the average powdered form of arsenate should be applied at a strength of at least 1 lb. to 25 gallons, and paste at 1 lb. to 18 gallons water. The introduction of an efficient "spreader" gives greater adhesiveness and a better cover.

Powdery Mildew.—Badly infected varieties that have been treated with the iron sulphide mixture at the "dormant" period may require a further application to effectually control this disease. At this stage either iron sulphide or atomic sulphur may be used. The latter is mixed at a strength of 1 lb. to 12 gallons of water, and may be combined with the arsenate sprays if desired.

Re-working Fruit Trees.

Unsuitable or unprofitable varieties that have been grafted over to other kinds will require attention. A number of growths will now be showing from the base of the limbs that have been treated. Do not remove any of these until the grafts have made fair growth and then maintain a fair proportion to ensure that a better balance is preserved between the roots and foliage. These growths may be occasionally "stopped back" to stimulate the development of the grafts. A strong suitably-placed growth should also be selected on limbs upon which the scions have "missed," for "budding" during February and March.

STATE FRUIT ADVISORY BOARD.

A meeting of the Board was held at the Department of Agriculture, Hobart, on October 11, at 11 a.m.

Present:—Neil Campbell (Chairman), T. J. Eddington, J. P. Piggott, M.H.A., E. Reed, A. Davies, B. J. Pearsall, V. J. Skinner, W. H. Calvert, M.L.C., J. H. Astell, F. Peacock, and P. H. Thomas (Secretary).

Apology was received from Mr. F. Cole.

Overseas Fruit Shipments.—It was decided, on the motion of Messrs. Peacock and Pearsall, "That the Secretary of the Tasmanian Fruit Allotment Committee be communicated with requesting that the list of vessels visiting Tasmania to load Apples, together with dates of arrival and ports of discharge, be submitted to the

Board for consideration and approval in sufficient time before the 1928 export season commences.

Inspection of Fruit.—It was decided to ask the Federal Minister to receive a deputation from the Board to consider the matter of inspection of fruit for export, with a view to co-ordinating the work and eliminating dual control.

Appreciation was expressed of the action of the Commonwealth authorities in removing the inspection charges on fruit exported to overseas markets.

Standard Purchase form for Apples.—Mr. F. Peacock brought forward for consideration, a suggested Standard Purchase Form for Apples which had received the approval of the representatives of the principal purchasing firms exporting to overseas markets.

It was decided to obtain an opinion as to the legality of the conditions of such form of contract.

Defence Fund.—It was decided, on the motion of Messrs. Piggott and Campbell, "That the trustees be requested to invest the amounts at present on deposit in Tasmanian Government Inscribed Stock, together with the accruing interest on Commonwealth Bonds and such Inscribed Stock as it fell due."

Sydney Committee of Agents.—A communication was received from the Committee of Agents, requesting the appointment of two delegates from the Board to the Annual Conference of the Association to be held in November.

Mr. J. P. Piggott, M.H.A., and the Secretary (Mr. P. H. Thomas), were appointed.

Stranding of "Riverina."—Mr. Pearsall brought to the notice of the Board the heavy losses which were sustained by fruitgrowers arising through the stranding of the T.S. "Riverina."

It was decided to obtain legal opinion on the position of these growers.

Notices of Motion for the Next Meeting Were Received as Follows:—

"That the Board consider the appointment of a representative on overseas markets to generally supervise and look after the interests of Tasmanian exporters." (Mr. Reed.)

"Advertising of Tasmanian fruit on overseas markets." (Mr. Piggott.)

"Bite off more than you can chew
And chew it.

Plan more than you can do,
Then do it.

Hitch your waggon to a star; keep
your seat,

And there you are."

NOTES FROM LALLA (NEAR LAUNCESTON).

The principal fruits grown are Apples, Pears and Plums in all the leading export and canning varieties.

I consider it is much too early yet to forecast the probable crop, as Apples are not all in flower yet. Pears appear to be setting fair crops. In some districts frosts may have injured both Plums and Pears, but it is too early to anticipate.

There is a heavy show of blossom, and prospects are good for much heavier crops than last year.

Trouble may occur later from black spot, according to the weather.—Frank Walker, Lalla, near Launceston, Tas.

TASMANIA

Leading Australian Firm of
Fresh Fruit Exporters.

Manufacturers IXL Jam and
Canned Fruits.

Hop Factors—Largest Cool
Stores for Hop Storage in
Commonwealth.

All Orchard Supplies avail-
able at all times.

Agents for—

Associated Evaporated
Apple Manufacturers, London
Assurance Corporation, Federal
Steam Navigation Co. Ltd.,
Scottish Shire Line of Steam-
ers, Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

SCOTTSDALE NEWS.

The principal fruits grown in Scottsdale are Apples and Pears. The principal varieties of Apples are Jonathans, Sturmers, Five Crown, Adams, and Statesman. The general crop of Apples will be good, quite up to the average, and under favourable conditions from now on will be a record crop. And very much heavier than last year. There are about 300 acres of fruit trees registered, including domestic orchards, i.e., small areas attached to farms and home-steads.

In regard to pests, Red Spider is making its presence felt to a very pronounced extent this season, and will destroy the fruit trees if immediate action is not taken. Spraying is a sure preventative—lime sulphur 1 in 8 during dormant state.—P. H. Tucker, Scottsdale, Tas., 14/10/27.



Dried Fruit Department

VINE FRUIT CROPS.

Yields Greatly Reduced by Frost.

As reported in our last issue, severe frosts occurred late in September in the vine-growing areas of the Murray Valley, and throughout other fruit-growing districts of New South Wales, Victoria, and South Australia, whereby it is anticipated that the vine fruit crops will be reduced to less than half their normal yield. In addition, cherries, apricots, and other stone fruits have suffered considerably. Investigations into the damage have been made by the Development and Migration Commission, and Government officials of the States concerned, and a report has been issued by Mr. F. de Castella, Victorian Government Viticulturist, which summarises the position.

In his report, Mr. de Castella points out that these frosts constituted the most severe visitation in the history of the district. The frosts had not been unexpected, as most growers recognised the great danger of frosts in a dry season such as the present one. As a matter of fact, a warning was broadcast by Mr. de Castella in a wireless talk a few days before the frosts occurred, and the value of "smudge" fires in lessening the damage was stressed.

The visitation, the expert points out, was a black frost—hence its unusual severity.

In some cases areas of approximately a square mile and over have been completely burnt. Such areas are to be found in the Irymple Valley, at Merbein, and in a somewhat irregular form at Cardross. Apart from these large areas, the damage is patchy, valleys being affected and rises more or less untouched. In some cases, however, comparatively low land has escaped, and rising land has suffered.

In view of the variable and patchy nature of the damage, it is impossible to assess it accurately at this stage. In some cases there will be recovery, but its extent cannot yet be forecast. Until the results of the survey now being made are known, any estimate must be largely conjectural, but the loss for the whole district will amount to probably 50 per cent.

Many vineyards have lost the entire crop, while some have escaped altogether. Sultanas have suffered most severely, but currants have been damaged also—in some cases severely. Gordos, Walthams, and Doradillos, which sprout later, have mostly escaped.

Steps to obtain a supplementary crop by re-pruning have been suggested by Mr. de Castella, who states that, with some vine sorts, a half crop and even more can thus be obtained.

Unfortunately the sultana does not respond in this way, as its secondary sprouts bear no fruit.

On completely frosted vines recovery can be only from the few dormant buds on the basal half of the rods left at last winter's pruning. Owing to this season's excellent bud burst these dormant buds are not numerous. These are breaking even now, and some of them show fruit. In some cases, and especially on vines of medium strength, it may prove advantageous to shorten back the rods to about half their length. This would render the sprouting of the dormant buds more certain.

As regards future action to obtain some protection against frosts, Mr. de Castella suggests that consideration should be given to the more systematic use of smudge fires.

In a few cases individual growers

obtained positive results by "smudging" during the recent frosts, but it is pointed out that community action in this regard would result in much more complete protection. Steps are being taken at Mildura for organisation on these lines immediately.

A scheme to provide permanent insurance against frost damage has been proposed by the Renmark A.D.F.A., and is being taken up by Mildura and other districts with a view to securing united inter-state action.

VITICULTURE IN N.S.W.

Seasonal Report for September.

Weather conditions have been exceedingly dry in all the viticultural areas, and it is feared that, if rain does not soon fall, an irregular bursting will result. Fortunately, on the Irrigation Areas they had the water available to overcome any such trouble, but in the other districts the sub-soil has not benefited by a fall of rain for some considerable time.

Frost has been experienced in parts of the State, but according to reports to hand the only districts affected are the Murrumbidgee Irrigation Areas, and fortunately, the damage done has not been severe, only the early varieties such as Sultanas and Frontignacs suffering as a result.

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and

economical on the market —

We manufacture a complete range

of Sprays for the Orchardist —

including Arsenate of Lead (paste

and powder), Lime Sulphur, Red

Spraying Oil, Copper Soda Mixture,

Benzoate Emulsion, Spray Spreader

etc., etc., etc.

Prices and particulars on application to

PARSON & JAKES

Manufacturing Chemists

6 Patterson Street

155 Yarra Street

Abbotsford, Vic.

T. STOTT & SONS Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET,
Melbourne

AUSTRALIAN DRIED FRUITS BOARD.

Financial Returns.

The report of the Australian Dried Fruits Board, presented to the Federal Parliament at Canberra at the end of September, indicates that the net collections on dried fruits exported from the Commonwealth from July 1, 1926, to June 30, 1927, amounted to £30,791/0/7, representing a levy at the rate of one-eighth of a penny per pound on 22,547 tons and $\frac{1}{4}$ per lb. on 7,609 tons.

The collections from March 1, 1927, to June 30, 1927, amounted to £22,475/19/7, representing progress shipments of 23,110 tons.

The quantity of dried fruits harvested for the season 1926-7 and processed to June 30, 1927, was 51,923 tons, comprising 36,455 tons of Sultanas, 10,872 tons of Currants, and 4,596 tons of Lexias.

It is estimated that the quantities to be exported were 31,000 tons of Sultanas, 7,000 tons of Currants, and 2,500 tons of Lexias.

Advices from abroad show that a great improvement was observed in the quality of fruit generally, but there are still complaints as to the irregularity of the grading. It is regrettable that certain packers are still quite indifferent to the necessity of placing Australian dried fruit on the overseas market in a satisfactory condition. The Board therefore urges the Department of Markets to exercise most rigid supervision over the next three years' processing and packing, with a view of reducing to the minimum a number of well-founded complaints.

The preference of £7 per ton granted by the Imperial Government on Sultanas and Lexias still materially assists the growers. It is hoped that when the present treaty with Greece terminates, the position will be reviewed. The Board's bank in South Australia has been of distinct assistance to growers in other dried fruit producing States. Arrangements that have been entered into with various shipping interests will mean a saving to the grower this season of £50,000 on the estimated export of 40,000 tons. It is already apparent that a considerable increase in trade with Canada will result from the visit of the Board. It is expected that the sales will amount to 3,000 tons, as compared with 776 tons last year.

The Board again urges upon the Government the necessity of securing tariff preference for Australian dried fruits imported into New Zealand, where the local consumption is about 4,250 tons annually.

The total revenue of the Board for the 12 months ended June 30, 1927, was £31,538/15/-, to which is added the balance carried forward at July 1, 1926, viz., £27,629/7/-, making a total of £59,168/2/-.

From this the following payments have been made:—Administration expenses in Australia, July, 1926, to June, 1927, £4,415; administrative expenses in Great Britain, April, 1926, to March, 1927, £7,382; publicity in Great Britain, April to June, 1926, £1,491; contributions toward joint publicity scheme, July, 1926, to June, 1927, £20,000; exhibit at New Zealand exhibition, £528; expenditure in connection with the visit of Mr. R. A. Haynes to Canada, £1,204; Empire Marketing Board, advances to cover cost of delegates' steamer fare to London and return, to be reimbursed, £211/12/-.

EXPORT OF GREEK CURRANTS.

According to figures issued by the steamship agents, the following gross weights of Currants were exported from Greece up to the end of April, 1927:—

Destinations.	Season 1926-27, up to April 30. Short tons.
Total United Kingdom	62,355
United States and Canada	4,500
Canada, direct	840
Belgium	888
Holland	13,214
Germany	6,321
Other Countries	3,169

Total 91,287
The report states that although it

is very early to form an estimate regarding the new crop of Currants, it is believed it will be about 5 per cent. more than that of last year.

CAMPAIGN TO INCREASE CONSUMPTION OF AMERICAN DRIED FRUIT IN NETHERLANDS.

According to an official report from The Hague, Netherlands, it is stated that at a recent meeting of the Dutch Dried Fruit Association of Amsterdam and Rotterdam, a resolution was adopted to approach American dried fruit export associations with a view to participating in the cost of an extensive four-months advertising campaign to further arouse the interest of Dutch consumers in American dried fruits, such as Apples, Apricots, Pears, Peaches, Prunes and Raisins. The campaign would commence after the Dutch fresh fruit crop has been harvested, during the latter half of November.

Dried fruits are imported into the Netherlands in 27½ and 50 pound boxes and sold by retailers out of the original boxes.

WINE BOUNTY.

The return under the Wine Export Bounty Act for the year ended June 30, 1927, shows that the total bounty paid was £442/410/1/2. The State totals were:—South Australia, £329,662/18/10; Victoria, £59,024/19/10; New South Wales, £49,571; and Western Australia, £4,150/10/-.

Here at Last !

PATERSON CONCENTRATED

"CLENSEL"

The Spray that has achieved Remarkable Results throughout England and India.

Once Tried Always Used.

Eradicates on contact Red Spider, Scale, Thrips, Curly Leaf, Green Fly, Black Rot, Mildew, etc.

Non-poisonous. Non-injurious to trees or foliage.

"CLENSEL" can be used any time of the year.

Easily mixed. No other spraying solutions to be added. Bark infected orchards can be effectively cleaned with two applications of "CLENSEL." (See page 417, October "Fruit World.")

Further particulars from—

BRUCE ANDERSON ————— **CLENSEL (Aust.) AGENTS**
56 Hardware Street, Melbourne

Banana Bunchy Top.

Scientific Research Council's Conclusions

(Continued from last Issue).

A Serious Problem.

The basis on which these recommendations are made is the belief, held in the present state of our knowledge, that Bunchy Top is a specific disease confined to species of the genus *Musa*, that the banana aphid is the main transmitting agent, and that this aphid is confined to members of the natural order Musaceae, which, apart from the banana, is not represented in plantations in the affected area. We recognise that there are great difficulties in the way of a consummation of the scheme of eradication, chief among which is the large labour cost of removal of Bunchy Top plants over extensive areas, especially where the land is very stony and precipitous, or is overgrown with weeds and lantana. The complete removal of affected stools growing on excessively stony land will demand that subsequent inspections of the land must be made, some time after the first digging out, to destroy those plants which have grown from the unremoved portion of the original stools.

In the badly infected areas of north-eastern New South Wales and south-eastern Queensland the presence of large acreages of abandoned plantations, much of which are owned by men who have no further interest in the banana industry, will call for special consideration and appropriations. Unless the administration and the work of eradication are undertaken most seriously, both by the Governments concerned and the growers, the period which must elapse before replanting can safely take place in the affected areas will be unduly prolonged, and the chances of further spread of the disease increased. For some time following the initial attempts to eradicate Bunchy Top from a district, the disease will recur, due to the overhang of infective aphides which have migrated from dug-out stools, or to the later development of the disease in stools receiving infection some time previous to the commencement of eradication. Observations suggest that in certain instances a period of dormancy may elapse before symptoms of Bunchy Top become manifest in infected stools, which would occasion for some time a persistence of the disease in a plantation which was being cleaned up. Nevertheless, we feel certain that if the scheme of eradication, outlined above, can be carried out as a district-measure over a period of time, the dis-

ease will gradually disappear from the area.

Attention has been given to the possibility of providing some means, other than the laborious method of digging-out, for the destruction of infected banana stools. A series of experiments, with arsenical and other poisons, has been conducted by Mr. H. Collard, Horticulturist to this Investigation, to determine whether stools could be completely killed out by this method. These experiments have demonstrated that, although poisoning is effective in destroying the above-ground parts of stools, the crowns are not injured sufficiently to prevent them throwing up fresh suckers. Where individual plants in the stool are poisoned out, no effect is produced on adjoining or neighbouring suckers. The physiological independence of the various members of a stool, at least as far as the effects of poisoning are concerned, therefore defeats this method. There seems to be no other way of efficiently eradicating diseased stools than by the costly method of uprooting.

4. Immunization.—There appears to be little hope of obtaining stock satisfactorily resistant or immune to Bunchy Top.

Observations and experiments conducted thus far would indicate that all species of the genus *Musa* which could be grown commercially under sub-tropical conditions, including cultivated and wild species of the banana and Manilla hemp, contract the disease. Although the various species may differ slightly in respect of their susceptibility to Bunchy Top, yet this difference does not open up the possibility of being able to replace the standard Cavendish variety. The particular climatic and topographical conditions obtaining in the affected banana areas seems to militate against the successful commercial establishment of any variety other than the least tropical of all varieties—the Cavendish.

Bunchy Top, in 1891-95, devastated the plantations in Fiji, and ruined the industry. The disease still occurs there, but is by no means the serious menace that it was. At times it does happen that complete replanting becomes necessary in some plantations, owing to all the plants developing Bunchy Top. It would appear from observations made by the Horticulturist, on his visit to Fiji, that while the disease is prevalent, it affects a comparatively small percentage of plants in most plantations,

although it is rampant in native gardens. It is hard to discover the cause of this, and it would be unscientific to attribute the same to actual immunity or resistance on the part of the plant. Unfortunately, the carefully selected plants which were sent from Fiji for experimental purposes were so badly affected with Beetle Borer that very little use could be made of them. The result is that the reputed resistant stock present in Fiji cannot be definitely reported on.

It is to be recognised that, despite the agnostic attitude with respect to Fijian plants, such problems as immunity and resistance to Bunchy Top, variations with respect to the virulence of the virus, prevalence of the vector, &c., merit further consideration. Nevertheless the propagation of possibly resistant stock would require so long a period for purposes of restocking the large acreage of plantations that more immediate attention has been necessarily devoted to other methods of combating the disease.

5. Remedial Measures.—At times reports are made by growers and enterprising sellers of specifics—fortunately not so frequently now as in past years, that they have knowledge of remedies. It may be definitely stated, in the case of Bunchy Top, as in the case of other virus diseases of plants, that all reputed remedies are valueless. Once Bunchy Top has made its appearance in a plant, nothing will restore that plant to health, and immediate destruction is the only means of effecting any good as far as banana-growing is concerned.

Summary.

1. The Bunchy Top disease in bananas made its appearance in Australia in 1913, being introduced very probably in infected banana suckers from Fiji. It has since spread through the banana areas of north-eastern New South Wales and south-eastern Queensland, ruining the industry in many centres. All attempts made in the past to stem the march of the disease have failed. Recently Bunchy Top has appeared in isolated areas on the north-coast of Queensland. The disease has also occasioned extensive damage in Fiji, Ceylon, and Egypt.

2. Thus far, no plant other than a member of the genus *Musa* has been found to be susceptible to Bunchy Top. No variety of banana is known to be highly resistant or immune to the disease. The Cavendish, the standard commercial variety in Australia, is very susceptible.

3. The symptoms of the disease are very characteristic; the leaves become shortened, narrow, brittle, upright,

wavy, and slightly rolled, and later take on a typical rosetted habit. The earliest and most definite symptom of the disease is the presence of characteristic broken dark green streaks along the secondary veins of the laminae, the mid-ribs, and petioles. This streaking is correlated with an interesting pathological condition of the phloem region of the vascular bundles. The disease induces a disorganization of the root system of infected plants.

4. Microscopic examinations and isolation tests have failed to indicate the association of either bacteria, fungi, or protozoa as a causal agent. Definite evidence has been secured that Bunchy Top can be transmitted from diseased to healthy individuals by the banana aphid *Pentalonia nigronervosa* Cq. Artificial juice-transfer inoculations and the contiguity of the roots and corms of diseased and healthy plants have not caused transfer of the disease. Bunchy Top is distinctly systemic in nature, and has been classified amongst the virus diseases of the "potato-leafroll" type.

Carlton Arsenate of Lead

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

5. The spread of the disease in north-eastern New South Wales and south-eastern Queensland has, in our opinion, been due, first to the distribution of infected suckers by planters over wide areas, and then to the dissemination of the disease to neighbouring plantations by the banana aphid.

6. A consideration of the possibility of controlling the disease shows that measures serving for the exclusion of the disease in unaffected areas, and from plantations in lightly affected areas, and measures for eradication of the disease from heavily and lightly affected areas, represent the only means available for controlling Bunchy Top. No protectionary measures are of value, and no immune or resistant stock is available.

Manuring of Orchard Trees.

Experiment with Apples in Blenheim District

(By M. Davey, Orchard Instructor, Blenheim, in the "N.Z. Journal of Agriculture")

SOME TWO YEARS AGO the Marlborough Fruitgrowers' Association, having arrived at the conviction that the time had come when it was impossible to produce profitable and maximum crops of Apples without the aid of fertilisers, requested the Horticulture Division of the Department of Agriculture to conduct a local manurial experiment on behalf of the growers. The aim of the experiment was to determine the quantities and more particularly the proportions of nitrogenous, phosphatic, and potassic manures most suitable for the district, by which improvements such as renovation of debilitated trees and increased yields could be obtained.

The use of two orchards was secured, those chosen being the properties of Messrs. T. H. Torode and A. MacDonald, situated at Fairhall. These orchards were selected as being typical of the majority of those planted in the district—consisting of comparatively small trees in heavy bearing and declining in vigor, planted on light land with gravelly subsoil, and alternately carrying heavy and light crops. The trees experimented with were 12 years old and from 8 ft. to 10 ft. high.

The writer, acting in conjunction with Mr. Torode, carried out the experiment and noted results. The trees selected for the experiment were leading export varieties. The varieties, which extended across the two orchards, were treated in blocks of 15, three trees wide and five trees deep in the rows. Owing to necessity there was one exception to the number of trees in the groups, only 12 trees of Rome Beauty being incorporated in the blocks of this variety.

In No. 1 experiment, 5 lb. of manure per tree was used, and in No. 2 experiment 10 lb. per tree. Between these plots three rows of trees, five trees deep in the rows, received no manure, the centre row only being regarded as a check row for noting obvious results, while the yield was taken from all three rows. A special trial was made with two individual trees for purposes set out in Experiment No. 3.

Application of the manures was made on September 17, 1925, with the exception of the nitrate of soda, which was applied at the pink stage of blossom-development on October 12. The

general manures were surface-sown prior to ploughing, which was carried out one month later. Unfortunately, the growing season following the application of the manures was excessively dry, the rainfall for the six succeeding months being as follows: October, 2.63 in.; November, 0.57 in.; December, 0.74 in.; January, 1.73 in.; February, 2.63 in.; March, 3.32 in.—making a total of only 11.62 in. of rain over the whole of the period from which results could be expected. Owing to this adverse condition prevailing it was decided to allow the experiment to remain and to look for more pronounced results at the end of the second season (1926-27). Where remarks are made in tabulated form the results have been regarded as outstanding and conclusive.

Summary.

(1) Where manures have been applied the total increases in yield show that manuring in almost every proportion would assure a profitable increase over expenditure compared with no manure.

(2) Nitrate of soda, used at 5 lb. to the individual tree, afforded the only instance in which both the results looked for were attained—namely, renewal of young growing terminals combined with increase in crop, thus making its continued use appear the most desirable application.

(3) Fruiting-wood and bud-development were considerably increased in every instance, probably due to prolonged retention of foliage in the autumn.

(4) A successive heavy crop was secured in the Sturmer trees with both formulas used, a feature which had not been previously attained in the history of the orchard.

(5) The increased quantities of fertilisers used in Experiment No. 2 do not seem justified by results.

(6) The results suggest that greater contrasts in quantities and proportions of manures would show more pronounced and more valuable results in future experiments which may be undertaken by growers for a similar purpose.

All Ford car springs are given a test of 150,000 deflections under a pressure of 2,000 lbs. at the company's plant at Ford, Ontario.

Are You Preparing

"To Choose the Best is Wisdom."

for the coming Fruit Season?

Your Fruit will soon be ready for market.

There is only One Way you can obtain the Best Prices for your Fruit, by putting it up AT A MINIMUM OF EXPENSE in an Attractive Manner to COMPEL PEOPLE TO BUY.

You cannot do this without a "LIGHTNING" Fruit Grader, which will do the work of four men, thereby saving you Needless Wages, and giving you results impossible for men to arrive at, viz.:—

Evenly Graded Fruit, which is more Quickly Packed at a SMALLER COST.

You want The "Lightning" Fruit Grader the Best! is the Best and the Machine to Save you the most Money CANNOT BRUISE THE FRUIT.

Catalogue on Request.

Order Early to Ensure Prompt Delivery.

Fruit Well Graded is Half Sold.

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
MELBOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

AMERICAN FRUIT CROPS.

Figures issued by the Statistical Service of the California Dept. of Agriculture on September 1, estimate the principal fruit crops in the United States as follows:—

	Dec. Est. 1926.	Sept. Fore- cast, 1927.
Apples—		
(total), bus. . .	246,460,000	123,574,000
(Com.), barrels	39,095,000	24,198,000
Peaches, bus. . .	68,425,000	44,762,000
Pears, bus. . . .	25,644,000	18,026,000
Grapes, tons . .	2,349,000	2,529,000

The export of American Apples last season constituted a record up to May 7. The total amounted to 5,004,799 barrels, and 7,515,849 boxes, an increase over the previous season of 2,111,063 barrels and 2,467,863 boxes. Figured in terms of barrels the exports last season amounted to 7,482,246 barrels. Great Britain consumes more American Apples than any other foreign country.

The world market worked out favorably to the American growers. First of all economic conditions in most European countries had improved over the year before. The fruit crops of Europe were generally light; a heavy drought in South Africa reduced shipments, and finally the Australian Apple crop was comparatively light, making it possible to continue shipments from America to Europe right up to June 1, a condition heretofore unknown.

Reports from Continental Europe

indicate that this year's Apple crop will be slightly below the average, and the Pear crop considerably below average. Damage from frost is reported from Germany, Austria, Hungary and Holland.

The prospects for Australian Apples on the European markets appear to be particularly good.

FRUIT COLORING BY ETHYLENE GAS.

(To the Editor.)

Sir,—It may be of interest to your readers to know that the Ethylene Gas Process, which is so much used in America in coloring backward Citrus fruits, has now been found to be of considerable value in preparing both Celery and Tomatoes for the markets.

There is not much information to hand about Tomatoes, although it is claimed that they ripen up very much more rapidly and are in better color than when they are placed in the present ripening rooms.

With Celery, however, it is claimed that green Celery can be blanched completely white in about 60 hours. The flavor is improved, and the stalks become very crisp.

Ethylene gas is now easily obtained in the States, and it is hoped that these added uses found for it will be an incentive to local manufactur-

ers to make it available, as at the present time the cost of procuring it from America puts its use out of the question for the ordinary commercial grower.—Yours faithfully,

H. G. SUCH.

N.S.W. Central Citrus Association.

"POULTRY RAISING."

We have received from the Vacuum Oily Co. Pty. Ltd., a copy of an interesting little booklet entitled "Poultry Raising: Sound Practices by Successful Men." This deals with such subjects as "Picking the Cock-erels to Breed Layers," "Picking the Layers," "Mating for Egg Production," "Handling of Breeders," "Artificial Incubation," "Brooding of Chickens," "Destruction of Vermin," etc., and is freely illustrated with pictures of good types of poultry. The booklet should prove valuable to poultry keepers, and copies may be had on application to any of the branches of the company.

WHOLEMEAL BREAD COMPETITION.

The display of wholemeal bread in connection with the Wholemeal Bread Competition being conducted by the Food Education Society of Victoria, will be held at Anzac House, Melbourne, on November 11 and 12. It is open to the public on both days. Prizes will be presented on Saturday.

Canning Fruits.

Peach Situation in California.
Thinning Peaches.

CALIFORNIA PEACH CROPS AND PRICES.

(By H. R. Wellman, Extension Specialist in Agricultural Economics, University of California.)

THE FOLLOWING SUMMARY of the Peach situation is from a bulletin issued by the California Agricultural Extension Service:—

"California produces all of the dried Peaches and practically all of the canning Peaches in the United States. With fresh Peaches, however, the situation is different: only a small portion of the fresh Peaches are produced in California. A study of the industry must consider, therefore, three fairly distinct commodities, viz., Canning Peaches, Dried Peaches, and Fresh Peaches. These three are closely related, owing primarily to the fact that certain varieties of Freestone Peaches may be canned, dried, or shipped fresh. The relationship is most clearly shown in the tendency for the prices of each of the kinds of Peaches to move in the same general direction. This tendency is especially noticeable with canning and dried Peaches.

A number of important changes in the Peach industry have been taking place during the last twenty years. Since the changes have not all been in the same direction nor to the same extent, it seems advisable to summarise each commodity separately.

Canning Peaches.

One of the important changes has been the steady decline in the purchasing power of canning Peaches, which has declined 11 per cent. during the past fifteen years. The dollar which the growers receive for their Peaches will normally buy less of other commodities to-day than it did five, ten, or fifteen years ago.

A second important change has been the rapidly increasing production of Canning Peaches in California, particularly of canning Clingstone Peaches. This increased production has been the most important cause for the decline in purchasing power. However, a change in the consuming habits of the American people, that of eating more Canned Peaches and less fresh and dried Peaches, has prevented the price of canning Peaches from going as low as it otherwise would.

A study of the data presented in this circular indicates that the trend of purchasing power of canning Peaches is not likely to rise above the present

Crop Prospects.
News and Notes.

level within the next few years, because:

1. **Production is Increasing.**—New plantings are more than sufficient to maintain the present bearing acreage. These are being made in localities in which the yield per acre is high.

2. **The production of competing products** such as Pineapples, Pears, Apricots, and Cherries is also increasing.

3. **The buying power of consumers**, as indicated by wages and employment, has been at a high level since 1922; and it can not be expected that this buying power will increase to any considerable extent in the near future.

Furthermore, the trend of purchasing power may continue to decline unless the present rate of plantings is decreased or unless the demand for canning Peaches should increase.

Dried Peaches.

The purchasing power of dried Peaches has declined more rapidly than that of canning Clingstone Peaches, despite a considerable decrease in production during the last ten years. The tendency is for people to eat less dried Peaches to-day than they formerly did, even though they can buy them at a relatively lower price.

On the other hand, the present rate of planting of Freestone Peaches is hardly sufficient to maintain the present bearing acreage. It does not seem likely that the volume of production will rise above its present level within the next few years, unless a portion of the Freestone Peaches which are normally canned and shipped fresh should be dried. This, however, is an ever-present possibility. Whenever the price offered for dried Peaches is more attractive than that offered for canning or fresh Peaches, some growers will dry certain varieties of their Freestone Peaches instead of shipping them fresh or selling them to the cannery.

The alternative outlets for Freestone Peaches have been largely responsible for the close relation between the prices of the three kinds of Peaches during the past and there is reason to believe that these alternative outlets will prevent the future prices of dried Peaches from rising much above that offered for canning and fresh Peaches.

Fresh Peaches.

The purchasing power of fresh

Peaches has declined even more rapidly than that of canning Clingstone Peaches or dried Peaches. This decline seems to be largely a result of the increase in the production of competitive fruits and vegetables, and a decrease in the per capita consumption of fresh Peaches. During the last twenty years there has been a definite tendency for the American people to eat less Peaches in the fresh form.

The price which California growers receive for fresh Peaches is determined almost wholly by conditions outside of the State. Although the production of fresh Peaches in the United States as a whole has not increased appreciably during the last twenty years, there has been a definite shift in the Peach producing sections from areas of high cost to areas of low cost. Consequently, California fresh Peach growers will probably be subjected to more severe competition in the future.

According to the Agricultural Outlook for 1926, published by the Bureau of Agricultural Economics of the United States Department of Agriculture, a rapidly increasing production of fresh Peaches may be expected, due to the extensive plantings of young orchards in recent years in the South Atlantic and Middle Western states. Our principal markets are even more readily available to these sections than to California. It seems likely, therefore, that the decline in the trend of the purchasing power of fresh Peaches will continue for some time unless there should be an unexpected increase in consumption.

Foreign Demand.

Definite information on the demand for Peaches in foreign countries is not available. In the "Agricultural Outlook" for 1926, the Bureau of Agricultural Economics makes the following forecast of the general foreign demand for farm products:—

"The present prospects in foreign markets are that the demand for most of the products of our farms in 1926 will be no better than for the products of 1925, if as good, unless the competing products of foreign countries should be reduced by a less favourable season. Although the purchasing power of consumers in most countries for the products which they will have to import may be as good or better than in the past year, recovering domestic production and the imposition of protective tariffs is reducing the demand in some countries for foreign products and competition in all foreign markets, probably will be at least as strong as last year."

The present outlook of the Peach grower does not justify an increase in his Peach acreage unless he is able to produce Peaches at the current values or lower. He should not expect greatly increased values for his product during the forthcoming years, but must depend in the main upon improved efficiency for an increase in his return. The expansion of the Peach industry, if it is to continue, should be made upon lands that are primarily adapted to the production of this fruit, and only with an understanding of the possibility of continually lowering values. While this declining price level may not be realized and while circumstances may arise which will improve the present condition of the Peach grower, these are not yet evident from the facts we have been able to gather. Unless the grower can obtain a high tonnage per acre at a relatively low cost he should not expect to find Peach growing a profitable business.

THE PEACH PROBLEM IN CALIFORNIA.

(By D. H. Rundle.)

PEACHES: And more Peaches. Too many Peaches. That is the big topic in California today among fruit men. Some 13 years ago, when I came to California, I first worked in the finest Peach country existent, some 160 miles above San Francisco. Prices that year from the canners were £5/10/- a ton for Tuscan Clings, and £4/10/- for Phillips. I worked 10 hours a day at 10d. an hour.

The war years swelled the price for Peaches up to £20 a ton, and labor to 2/1 an hour. Further, it did this—and the fruitgrower is going to pay for it now—it caused 99 per cent. of the growers to break the contracts they had made with the canners for future deliveries. Now, the canner has a good memory of such things. He had to take that uppercut because he needed all the fruit he could get. To-day and for years to come he will be on top, unless the unexpected happens. He cannot sell all the fruit he can get, Peaches particularly. There are too many other popular fruits, and too much increased acreage in bearing to compete with the Peach for first place on the dining table of the civilised nations.

So when the canners carried over some million and a-half boxes, of 48 cans per box, of Peaches, they decided the grower should bear his share of last year's selling losses, and a good part of this year's. When the growers threatened to let the whole crop drop on the ground and rot un-

less they got their price of £6 a ton, the canner was satisfied. Repeated conferences finally arranged a sliding scale of payment based on tonnage canned. Hence the grower may get £7 a ton for a small part of his crop. Probably he will get £5 a ton for a good part of it. Mostly he will get £4 a ton for those Peaches over 2½ inch diameter, which do not drop while waiting for the canner to accept delivery.

I have just spent 48 hours in a Peach section 75 miles from Los Angeles. Last year their J. H. Hales brought £35 a ton; this, they may average £12. The Clings brought £12; this, they may bring £3. On the wholesale city market they would not bring anything. Elbertas can be bought there in unlimited amounts for £9.

To-day I spoke with one of the big fruit wholesalers in Los Angeles. He said California grows too much fruit for the market to absorb. Certainly there is too much poor stuff—undersized, poorly colored, poorly packed, a loss to grower and buyer. No section of the world uses more fruit per head of population than does Southern California. Here are some of to-day's retail prices:—Sultana Grapes, 1½d. per lb.; Gravenstein Apples, 2d.; Elberta Peaches, 1½d.; Watermelons, 1d.; Tomatoes, 2½d.; Williams Pears, 3d.; Valencia Oranges, 1/3 a doz.; Plums and Prunes, 2d. a lb.

A Melbourne friend is staying with us. She marvels at the low prices and the many places where fruit can be bought, 24 hours a day. The main roads are lined with fruit stands that cater with soft drinks, etc., for the travelling public. And I think of Australia, with its 44 hours a week, and deputations to the Government for help.

HAWAIIAN PINEAPPLE INDUSTRY.

The daily pack of the Hawaiian Pineapple Co., with the season well along, started dropping early in August, and at that time was running at an average of about 40,000 cases a day. The peak for the year was reached around the third week in June, when the 24-hour record was just under 70,000 cases, or approximately 1,462,000 cans.

The highest record to date was established July 17, 1926, when the company turned out 76,693 cases, or 1,607,845 cans. Last year the Hawaiian Pineapple Co. produced 3,049,378 cases of canned Pineapple during the season. The factory has a capacity of 63,000,000 cans a year.

Shipments of fresh Pineapple to

the Hawaiian Pineapple Co., plant from its plantation on the Island of Lanai have increased greatly this season. The peak this season is below that of last year because of weather conditions, but the crop has ripened more evenly over the entire period thus far. Last year the Hawaiian production of canned Pineapple was 8,939,590 cases.

Operation of the night shift at the company's plant, which has been working since the press of this year's canning season began in June, was discontinued for this season on July 29. Production for the 24 hours on Friday was 41,000 cases, while that of Saturday was 34,600 cases.—"Western Canner and Packer."

THIN THE PEACH CROPS.

INDICATIONS, so far, point to a heavy setting of most fruits this season, and in order to get good quality fruit, judicious thinning will probably be necessary. The following article by Geo. P. Weldon, in the "Pacific Rural Press," is of interest:—The idea that Peaches cannot be thinned with good effect, after the pits have hardened is one of those ideas that has originated with little or no foundation. Of course the earlier that a tree is relieved of its load the better, but on the other hand it is never too late to thin Peaches any time before picking, if the tree is carrying an overload.

It is usually the case that the thinners, when they first go over a block of trees, fail to take off enough of the fruit. Many clusters are left that should have been broken up and sometimes whole branches are missed entirely in the hurry of completing the operation to keep down expenses. As the fruit grows, the missed places can be easily seen and a second attempt will bring far better results. A systematic inspection of each tree now that the fruit has grown to a size that it may easily be seen, will pay for itself many times over. The work will not take long if the first thinning has been done with care and the time spent in this later work will not be great.

Even shortly before the time that the crop is to be picked effective thinning may be done. Some trees that it was thought earlier were thinned about right, will fail to size their fruit as can be readily seen when the ripening process has begun. It is desirable at this time to remove the overload and one may be surprised at the response in growth of the fruits that are left on the tree. The very best time to thin trees is early, before the pits have hardened, but the wise

orchardist will not let the first thinning be the only thinning for the season.

Peach Thinning Increases Size, but Does not Decrease Volume.

J. A. Holden, owner and manager of the Paul Rose Orchards, Mitchell, Ind., gives an interesting account in "Hoosier Horticulture," of his experience in thinning Peaches. An eight-year-old tree on which the Peaches were thinned to seven inches apart yielded 10.4 bushels containing 1,730 Peaches. An adjacent tree, left unthinned, produced 10.5 bushels, with a total of 2,416 fruits. Thinning in this case increased the size and did not materially decrease the volume of the crop.

There are 2,800 bearing trees in the Rose orchards. The trees have been variously pruned, and the average height is about that of a normal eight-year-old tree. The thinning crew averaged about 18 men. It required on the average three-quarters of an hour to thin each tree. An average of 800 Peaches was removed per tree. The total cost of the thinning, including the foreman's time and that of two regular hands, was 676.70 dollars, or slightly over 24 cents per tree.

The thinning is done as early as possible so as to direct the energy toward the development of the remaining fruit. The best results will follow, according to Mr. Holden, when the thinning is done as soon as it can be determined definitely what fruit will "stick" and what will come off in the June drop.

In sections of the country where frost damage has occurred, little or no thinning may be necessary, but growers who have been fortunate enough to escape frost damage will find it to their advantage to thin their fruit carefully.

EGYPTIAN MARKET FOR CANNED FRUITS.

During the year 1926 the value of canned fruits imported into Egypt amounted to £36,400, an increase of about £13,000 over 1925. Of these imports direct shipments from America amounted to £12,000 in 1926, and £6,000 in 1925.

Pineapples and peaches constitute about 75 per cent. of the total imports. The principal demand is for the standard grade packed in No. 23 tins.

THE GOULBURN VALLEY.

For notes on seasonal conditions and crop prospects for canning fruits, see p. 474.

Western Australia.

Orchard Work.

District Notes.

November Work.

(By G. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture")

Continue baiting and trapping to control the fruit fly pest, and destroy infested fruit daily.

Pear Slug will make its first appearance about the end of this month. Spray with arsenate of lead, using 1½ lbs. arsenate of lead powder in 50 gallons of water.

Keep a sharp lookout for traces of codlin moth and notify the Department of Agriculture at once if any suspicious tunnelling are noticed in Apples or Pears. There are only two places in the State—Collie and Narrogin—where the pest is known to be present in Western Australia, and last year's operations were so successful that eradication is confidently expected to follow on this season's treatment; but, just as it appeared in those centres, so it may in any others, and the only chance of keeping the State free is to make war against it before it becomes widespread, so all growers, in their own interests, and for the good of the whole industry, should be vigilant in observation and spontaneous in action.

Continue cultivation.

Thin out fruits on all trees which have set heavy crops.

LOWER CHITTERING NOTES.

(By "Surtic.")

THE ANNUAL SHOW was held under ideal weather conditions when a fine display of Citrus fruits was placed before the judges.

The show was opened by the Minister for Agriculture (Mr. M. F. Troy), who remarked upon the suitability of the Chittering Valley for Citrus fruits; two consignments sent to London as deck cargo arrived in excellent condition and retailed at 4/9 per dozen. The entries on the whole were not quite up to the usual number, but the quality left nothing to be desired; the packed fruit, both wrapped and unwrapped, was of a very high standard, giving the judges a very hard task. We would like to see the big groves join in and make the Show more successful and competition keener.

The rain has eased up somewhat abruptly, and growers are finding the cross-ploughing a hard task. The rainfall for September was only 260 points, against an average of 4 in., hence the somewhat dry conditions. Those growers who irrigate will soon be busy on the pumps.

The Navels will soon be finished, and the market is very firm just now for that variety. Growers are looking forward to good prices for the Valencias, as the Orange drinks are now being placed on the market, or rather before the public, and are "catching on," to use a colloquialism.

Groves are now looking in fine trim, and in most instances carrying a wealth of blossom in all varieties. Aphis, our springtime pest is keeping well out of sight this year, due, no doubt to the somewhat dry and fine weather conditions. But a constant lookout must be kept, and any sign of the pest dealt with, as a wet, humid week would mean ideal conditions for it to thrive.

The following note is a reprint from Melbourne "Herald," and refers to the trays sent by "G.B.L." as deck cargo, mentioned in my previous notes. It reads:—

W.A. Oranges at 4/6 dozen.

"LONDON, Aug. 10.—The second unrefrigerated consignment of 50 trays of West Australian Oranges shipped as deck cargo aboard the "Ferndale," arrived in perfect condition. Buyers were eager to secure the fruit, which realised the remarkable price of 8/- a tray (20 to 30 Oranges)."

NOTES FROM KALGAN RIVER.

W.A.

Although last season's crop was only medium, growers are well satisfied with the results, as the prices, especially for Pears, have been very good.

September, 1927, will remain in the memory of this district for the phenomenal rains—nearly ten inches fell in four days, including 6.91 inches on the 20th. The previous record for 24 hours was for May 28, 1921, 3.44 inches.

Orchards have been washed out in places, but the damage to the roads is the most serious matter, as we are entirely dependent upon them for the transport of our crop. Application has been made to the Government for assistance. The reply to date is that such assistance will be on the pound for pound basis. This leaves much to be desired, as unfortunately the Albany Roads Board, which has one of the most difficult districts in the State, is up to the limit of its overdraft. We are, however, hoping that something will be done, especially as present indications are for a record crop.—L. L. Hill, Kalgan River.

The Fruit Trade

Market Reports and News Items

**REPRESENTATIVE FIRMS, FRUIT
MERCHANTS, AGENTS, EXPORTERS,
Advertising in this Journal.**

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.

VICTORIA.

Melbourne.
Producers' Dist. Society, Western
Market.
Cave F., & Co., Melbourne.
Davis, J., Western Market.
Lister, G., Western Market.
Mills, A. & Sons, Western Markets.
Mills, J. B. & Co., Bank House, Bank
Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L. Little Bourke
Ross, J. W., Western Market.
Street.
Silbert, Sharp & Davies, Western
Markets.
Stott & Son, T. Western Markets.
Tim Young & Co. Western Market.
Wear, F. W., 49 William Street.
Woolf, G., Western Market.
**Wholesale Fruit Merchants' Assn., J.
D. Fraser, 325 Collins St., Melb.**

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Comino Bros. Ltd., Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H. Fruit Exporters.
Peacock & Co., W. D., Fruit Exporters,
and at London.

Launceston.

Bender & Co. Pty. Ltd., 110 Elizabeth
Street.

NEW ZEALAND.

Dunedin.

Co-operative Fruitgrowers' of Otago
Ltd.

GREAT BRITAIN.

London.

M. Isaacs & Sons Ltd.
Margeson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Poupard, T. J., Covent Garden.
Ridley, Houlding & Co., Covent Gar-
den.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

Jas. Adam, Son & Co., Fruit Ex-
change.

Kull.

White & Son Ltd.

Coventry.

Boswell Bros. & Davis.

Manchester.

The Port of Manchester, rep., W. J.
Wade, 8 Bridge Street, Sydney.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Asthelmer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hanburg.
Stier, Aug., Fruchthof, Reps J. B. Mills
& Co., Bank House, Melbourne.
Timm & Gerstenkorn.

BRITISH MARKETS.

American Box Apples and South African Oranges Slump.

Liverpool (7/9/27).

Messrs. J. C. Houghton & Co., Liv-
erpool, report:—

American Box Apples.—The very serious fall described in our last issue resulted in quotations which are disconcerting; there is no reaction from the low point reached at the sale of the last cargoes, and the position is a disastrous one for operators at the present time. These remarks apply to all kinds, none of which seem to escape from the prevailing depression. It is all the more disappointing because many of the Gravensteins are showing up in thoroughly good order, and deserve an altogether better fate. Wealthies, on the other hand, are too green to find favor. Crates from New England suffered with the rest, and sold ruinously in spite of their sound appearance.

Californian—Gravenstein, 8/6, 12/9.

American—Wealthy, 4/3, 6/6.

Maine and Boston—Gravenstein, crate, 6/9, 8/3; Red William, 7/-, 8/9.

Pears.—High figures have been touched for best lots of barrels, for which there is great demand. In the box section, Beurre Hardy landed in fine condition and did well; Bartlett's varied very greatly, and although the most satisfactory parcels made reasonably good prices, many lots were rather ripe and bruised, and sales will be disappointing to senders.

Hudson River—Bartlett, barrel, 25/-, 38/6; best, 42/-, 53/-.

Californian—Bartlett, box, 14/-, 18/-; best, 22/-, 24/-; B Hardy, box, 29/-.

Oranges, South African.—The remainder of "Edda's" cargo has been on offer, and we can only repeat the regrets that results are so supremely unsatisfactory. Taking into account the heavy cost of conveyance to the coast, and ocean freight, the returns cannot fail to cause dismay to shippers, who, after last year's bitter experience through the coal strike, hoped for something infinitely better this season. Californian continue to come along in plenty, and "Neb-raska," with 25,000 boxes is now here. This fruit is selling relatively well in comparison with the South African.

South African (Box)—

96/126 150/176 200/288

Navel—

Choice 10/9 16/6 17/- 17/9 15/- 17/3
Stand. 10/- 15/- 15/- 17/- 15/- 17/-
Seedling—

Choice — — 12/6 14/6 12/6 14/9
Stand. 11/- 11/3 12/- 14/- 12/- 13/6

Californian (Box)—

20/- 24/-

Arrivals of American and Canadian Apples from commencement of season to September 7 totalled 75,971 boxes, and 25,984 barrels, as compared with 75,941 boxes and 25,701 barrels for the same period last season; Pears, 13,506 boxes and 750 barrels, compared with 20,605 boxes and 983 barrels in 1926.

Arrivals of South African Oranges to September 7 totalled 75,971 boxes, as against 69,433 boxes for the same period last year.

CANADIAN FRUIT IN ENGLAND.

Ottawa, Canada (12/9/27).

The following quotations have been received by cable from the Canadian Fruit Trade Commissioner in England:—

Southampton. — Virginia Apples, bbls., York Imperials, 14/9 to 21/-; Pears, Bonum, box, 20/3 to 25/11. New York Apples, bbls., Gravenstein, 20/3; Pears, Bartlett, bbls., 40/- to 50/-. California Apples, Gravenstein, boxes, Ex. Fancy, 8/5 to 10/5 (barrel equals 3 bus.).

London.—California Apples, boxes, Gravenstein, Ex. Fancy, 9/5 to 10/5. Demand slow. American boxed Apples in specially heavy supply. Heavy supplies of English Apples, especially Worcester.

Cardiff.—California Apples, boxes, Gravenstein, Ex. Fancy, 7/11 to 12/5. Demand slow. American boxed Apples in specially heavy supply. All markets depressed, demand influenced by prolonged rainy holiday weather.

AUSTRALASIAN MARKETS.

NEW SOUTH WALES.

Sydney (17/10/27).

Mr. F. Chilton, City Fruit Markets, Sydney, reports:—Queensland fruits Bananas, 28/- to 35/- per case; Pines, smoothleaf, 14/- to 21/-; Tomatoes (North Queensland), 3/- to 12/- per half case; Cucumbers, 14/- to 25/- per bus. case.

N.S.W. Fruits—Bananas, 28/- to 36/- per case; Lemons, 9/- to 15/- per bus. case; Oranges, 9/- to 18/-; Navel, 12/- to 22/-; Mandarins, 9/- to 30/-; Apples, G.S., 28/-; Passions, 10/- to 24/- per half case.

Tasmanian fruits—Apples, F.C., 19/- to 23/- per bus. case; S.P.M., 18/-

to 25/-; S.T.P., 18/- to 20/-; Dem., 20/- to 25/-.

Victorian fruits—Pears, Jos., 28/- to 32/- per bus. case; W.N., 20/- to 26/-.

All classes of fruit are extremely scarce and dear, with the exception of Tomatoes, which are plentifully supplied. Mandarins and Navels will shortly be finished for the season.

VICTORIA.

Melbourne (24/10/27).

The following were the ruling wholesale quotations at the Western Market:—Apples, good to choice eating, 18/- to 24/-; good to choice cooking, 16/- to 18/-; Tas., 16/- to 18/-; Bananas, Queensland special, 35/-; choice, 28/- to 32/-; standard, 18/- to 21/-; Lemons, Vic., 10/- to 14/-; Mandarins, N.S.W. special, 16/- to 20/-; medium, 8/- to 12/-; small, 7/-; Oranges, Murray districts in Vic., 18/- to 23/-; Murray districts in S.A., 18/- to 23/-; Goulburn Valley, 13/- to 18/-; N.S.W., 12/- to 16/-; Navel Oranges, Murray districts, Vic., 18/- to 25/-; Murray districts, S.A., 18/- to 25/-; Goulburn Valley, 13/- to 18/-; Passion Fruit, Vic., 30/- to 45/-; Pineapples, Queens, 20/- to 26/-; Tomatoes, 32/- to 33/-; Cucumbers, 22/- to 26/-.

QUEENSLAND.

Brisbane (17/10/27).

Lemons, prime, 5/- to 6/6; others, 3/- to 4/-; Limes, 4/- to 6/6; Pineapples, smooth leaf, 9/- to 14/- a case, 2/- to 8/6 a dozen; rough, 2/- to 8/- a dozen; 10/- to 15/- a case; Passion Fruit, 9/- to 18/-; Papaws, 3/- to 9/-; Mandarins, 5/- to 24/- a case; Oranges, 5/- to 15/-; specials, 16/- to 17/-; Navel Oranges, 16/- to 20/-; Strawberries, 6/- to 14/- a dozen boxes; Gooseberries, 10d. to 1/- a quart; Mangoes, 10/- to 12/-.

TASMANIA.

Hobart (22/10/27).

C.P.M., good, 16/- to 17/-; fair, 14/9 to 15/6; S.T.P., good, 15/6 to 16/-; fair, 14/- to 14/7; small and spotty lots, 4/- to 7/9 case; Delicious, choice, 20/- to 21/9; S.P., medium, 8/6 to 10/-; S.P.M., medium, to 7/6; other spotty varieties from 4/3 to 5/6. The market closed firm for all grades.

WESTERN AUSTRALIA.

Perth (20/10/27).

Apples, Granny Smiths, prime, dumps, 15/9 to 20/- (special to 23/-);

Rokewoods, 10/- to 15/- (special to 17/-, and others from 8/6); Cleos., 12/- to 15/- (others from 8/-); Dunn's, 13/- to 16/- (special to 18/6); Yates, 14/- to 19/- (special to 22/9 and others from 8/-); Doherty's, 13/6 to 16/- (some to 18/9); Oranges, Navels, prime, dumps, 10/- to 14/- (special to 20/6 and others from 8/6); flats, 7/- to 11/- (special to 13/3); Valencias, dumps, 10/- to 13/-; flats, 7/- to 10/- (special to 12/-); ordinary, flats, 5/- to 8/-; Lemons, flats, 3/- to 7/- (special to 10/3); Mandarins, flats, 6/- to 11/-; Loquats, flats, 10/- to 17/- (special to 22/3); Passion Fruit, half cases, 17/3 to 26/9; Cape Gooseberries, 7d. to 8½d. per lb.; Strawberries, 12/- to 18/- per dozen boxes (special to 20/-).

SOUTH AUSTRALIA.

Adelaide (22/10/27).

Apples (eating), 20/- to 22/- per

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches: Western Market

Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

case; cooking, 18/- to 20/-; Bananas, 34/- to 36/-; Lemons, 20/- to 22/-; Loquats, 12/-; Melons (Pie), 6/- per cwt.; Almonds, 12/- to 15/- per doz. lb.; Brazil Nuts, 14/-; Coconuts, 4/6 to 6/- per doz.; Peanuts, 14/- per doz. lb.; Walnuts, 12/-; Barcelona, 13/-; Oranges (Common), 13/- to 15/- per case; Navel, 19/- to 20/-; Passion Fruit, 60/-; Pineapples, 20/- to 24/-; Strawberries, 1/3 per lb.

NEW ZEALAND.

Dunedin (7/10/27).

Messrs. Reilly's Central Produce Mart Ltd., report:—Citrus fruits are short of requirements. Adelaide Navels realised 28/- to 30/-; Queensland Pines, 28/-; Passions, 27/-; Mandarins, 26/-; N.S.W. Lemons, 27/6; Adelaide, 28/-; American Valencia Oranges, 47/6; Mission Brand Lemons, 60/-; Delicious Apples, 18/-;

Canadians to arrive, 20/-; Pears, choice Winter Nelis, 18/- to 20/-.

Our New South Wales Valencia Oranges realised 24/- to 25/6, and Lemons, 28/6. To-day American Valencias are worth 47/6, and Mission Brand Lemons, 65/-. Prices for Apples remain unchanged.

TASMANIAN APPLES.

Experimental Shipment in Dressed Hardwood Cases.

Messrs. H. Jones & Co., of Hobart, have received a report from England, on September 30, stating that an experimental shipment of fruit in dressed hardwood cases was well received in London, where the shipment averaged 1/6 a case more than the usual price.

The cases were of ordinary hardwood, similar to those that the Tasmanian growers use, but dressed. As the dressing cost 3d. per case, a good profit is shown in the new return.

The company is setting up planing machines in various localities, so that the growers can have an opportunity to get the cases dressed before packing.

AN UNPRECEDENTED TEST.

Spray Blowing Back Cannot Stop Fully Enclosed "Ronaldson-Tippett" Spray Plant.

An extraordinary test was made recently, when a "Ronaldson-Tippett" Spraying Plant was operated with two spray guns working at high pressure directed on the engine.

On the "Ronaldson-Tippett" Plant the spark plug, magneto, valve gear, and gearing are fully enclosed, making them mud, dirt and spray proof. An air and moisture filter is also fitted which prevents spray getting into the engine and stopping it. This is an exclusive feature, and in making it a standard fitting Messrs. Ronaldson Bros. and Tippett have followed the example of motor car manufacturers who have proved that filtering the air passing through the carburettor gives longer life to the engine.

Another line handled by Messrs. Ronaldson Bros. & Tippett is the "Brockway" motor trucks, which are well known for reliability and satisfactory service. The 25-30 cwt. speed trucks and 30-35 cwt. heavy duty models are especially suitable for the orchardist. The low centre of gravity provides for safety and easy riding, and reduces to a minimum the possibility of damage to the goods. Heavier trucks in 2, 3, 4, 5 and 6-ton models are also handled.

Victoria

Seasonal Reports and Crop Prospects . . District News and Notes

THE GOULBURN VALLEY.

Prospects for Canning Fruits.

THE PRINCIPAL FRUITS grown in the Goulburn Valley (Northern Victoria), are Apricots, Peaches, and Pears.

In Apricots about 50 per cent. of the production is Moorpark, other varieties grown being Royal, Tilton, Blenheim, and Mansfield Seedling.

In Peaches the canning varieties principally grown are Pullar's Cling, Phillips' Cling, Nicholl's Orange Cling, Golden Queen, and Goodman's Choice. The usual white-fleshed varieties are grown for market, including Brigg's Red May, Hale's Early, High's Early Canada, and White Cling. Growers are rapidly going out of Elberta and the yellow freestones. Four years ago there were 500 acres

are bearing; 266,174 Apricots, of which 242,441 are bearing; and 324,153 Pears, 237,234 of which are bearing.

So far, there has not been any special trouble from pests. The usual shot-hole, black spot, etc., are present to a certain extent, but are causing no anxiety. Had the dry weather continued, Rutherglen Bug was expected to show up, but the rains have, it is hoped, averted any serious trouble from this pest.

This year the Ardmona Co-operative Cannery has erected a new cool store of approximately 50,000 cases capacity. The Shepparton Co-operative Cannery have also put in a cool store. It is anticipated that by this means the canners will be able to extend their season, and avoid to a large extent the present rush periods.

Hail Insurance.—A development of considerable importance to all fruit-growers is an arrangement with the Union Insurance Company to provide insurance against hail. This will be a great boon to the growers, who have been striving for many years to get this matter taken up. The Union Insurance Company is to be congratulated on its enterprise. The hail insurance scheme will be tried out for two or three years.—E. Blackburn, Merrigum, 14/10/27.

MERRIGUM NOTES.

The principal fruits grown here are Apricots, Peaches, Williams Pears, Prune Plums, Oranges, Lemons, Grapes.

On present indications the prospects are:—Apricots, half last season's crop; Peaches, full crop in all varieties; Pears, bloomed well, but too early yet to forecast; Prune Plums, seem patchy. It is too early yet to estimate the Orange, Lemon and Grape crops.

It is impossible at present to speak with certainty as to the crops, but indications are as given. All work in orchards is well advanced, and the trees are looking healthy and clean. Manuring in most cases is done, and the first watering is over.

A new broadcast manure spreader has made its appearance, and is the best in its line yet seen.

The Union Assurance Company is prepared to insure crops, through the local canneries, against damage from hail. The conditions and rates seem to be fair and reasonable.

The orchards which have been manured regularly in past years, although having carried the biggest crops, are at present looking well and have good crops set. This goes to prove that the effect of manuring is in the maturing of big crops, and providing the necessary growth for a good crop the following season. This has been noted from practical experience and observation. — "Merrigum Grower," 13/10/27.

NOTES FROM ARDMONA.

The principal fruits grown here are Apricots, dessert Peaches, Williams Pears, Canning Peaches, Table Grapes, and Plums.

The prospects are as follows:—Apricots, medium; dessert and canning Peaches, heavy; Pears, heavy; Plums, heavy; Grapes, too early to say. With the exception of Apricots, the crops this season will be heavier than last.

There are about 3,000 acres under orchards in this district, which last

F. W. Vear

Fruit & Vegetable Salesman

Commission Agent

WESTERN MARKET
MELBOURNE, VIC.

Highest Market Rates Assured

Prompt Settlements

season produced 10,000 tons of fruit.

There is no serious trouble from insect pests up to date. Root-borer beetles are very plentiful this year. Orchardists had to commence irrigating the trees a month earlier than usual, owing to the absence of winter rains.—V. R. McNab, Ardmona, 12/10/27.

PAKENHAM PROSPECTS.

The fruits grown here are chiefly Apples and a few Pears.

2. There was a very heavy show of blossom, which threatened to drop owing to a hot week-end, but 12 points of rain have improved the outlook. It is not possible, yet, to say how the crop will set.

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of

Apples, Pears, &c.,

Best market prices and prompt

account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

under Elbertas, but to-day there are not 50 acres.

In Pears, the good all-round variety Williams is principally grown, but there are also a few Josephines and Packhams.

In regard to prospects for the coming season, Apricots are patchy, and the yield will be light to medium; Pears, an average medium crop; Peaches, medium to heavy.

A fair average season is expected. The crops generally, with the exception of Apricots, will be heavier than last year, which was a record season for Apricots. The quality, however, this year is expected to be very good.

According to statistics issued by the Victorian Department of Agriculture, the Northern district has 767,360 Peach trees, of which 646,724

3. As the "thrip" practically wiped out the crop in this valley last season, the crop this season will be much heavier.

4. There is approximately 500 acres under fruit trees in the Toomuc Valley. I do not think much more than 2,000 cases were produced last season.

5. No trouble from pests is threatened so far. If we get seasonable rains the crop should be a good one.—Jas. F. Moody, Toomuc Valley Orchards Pty. Ltd., Pakenham, 10/10/27.

NOTES FROM TRESCO.

1. The principal fruits grown are Citrus, dried fruit and Doradillo Grapes.

2. The prospects at present are:—Doradillos, heavy; Citrus, medium; dried fruit, good.

3. The same prospects are showing as last year.

4. Acreage of vines in the districts is:—Dried variety, 100 acres; Doradillos, 350 acres; Citrus, 200 acres; Citrus, 20,000 cases, 1926 dried fruits, 120 tons; Doradillos, 1,600 tons.

5. The only pests troubling us are the usual ones according to weather conditions.

Tresco district has so far received no appreciable damage from frost, and the prospects generally are good. Citrus is setting very well, and Grape vines showing excellent crops again.

Pruning of Orange and Lemon trees has been demonstrated by Mr. D. Brown, local Orchard Supervisor, and growers here are satisfied that this branch of citriculture is essential, as the results on trees which Mr. Brown had pruned last year were most marked, especially the Lemon trees.

Doradillo Grape growers are anticipating good sales of their Grapes during the coming season, as there is a good demand for spirit.—J. P. Greenwood, Tresco Fruitgrowers' Co., Tresco, Vic.

STRATHFIELDSAYE NOTES.

The principal fruits grown here are Apples and Pears. In Apples the principal varieties are Jonathan, Munro, Cleopatra and Rome Beauty; the prospects are for heavy crops this season.

In Pears the variety principally grown is W.B.C., and the prospects are good.

Other fruits grown are Plums, which promise medium crops; Peaches, medium; Apricots, light (the frosts cut them up); and Quinces, which should be good.—A Somerville, Strathfieldsaye, 14/10/27.

NOTES FROM GORAE, VIA PORTLAND.

(1) The principal fruits grown here are:—Apples (Jonathans, Munros, Romes, Sturmer, Five Crown, Delicious), and Pears (Winter Nelis, Madam Cole, William Bon Chretien).

(2) The general crop anticipations are very heavy.

(3) It is expected this season's crops will be about 15 or 20 per cent. heavier than last year.

(4) There are about 200 acres in full bearing in the district; about 100 acres were planted this year.

(5) There is no trouble from pests threatened to date. Apples have been slow in coming out, but the blossoms are very strong. There has been a general improvement in the orchards all through the district, and about 100 acres fresh ground planted, chiefly by new and young men. There has been a general impetus all round.—E. W. Hedditch, Gorae, via Portland.

CROP PROSPECTS AT DONCASTER.

1. The principal fruits grown in the district are Pears and Peaches, with a few Cherries and Plums. In Pears the main varieties are Williams, Beurre Bosc, Packham, Winter Nelis; Peaches, mostly table varieties (slip stones).

2. It is rather early to predict yields, but we expect good crops.

3. It is expected that the crops will be heavier this year than last, which was light for all sorts.

4. I have heard no complaints so

far in regard to pests. The winter was too dry, but recent rains have made the ground in good order for ploughing. All trees show abundant blossom, and good results are hoped for.—John Tully, Doncaster, 10/10/27.

VICTORIAN FRUIT CROPS.

Seasonable Report for September, 1927.

The Superintendent of Horticulture reports:—

Fruit, except Vines and Citrus.

All kinds of deciduous fruit trees look well, and present appearance of buds and blossoms indicates a heavy setting of fruit. Recent heavy frost caused some anxiety, but as far as is known, no damage was done.

The continued dry weather is also causing some anxiety. In the metropolitan districts a good fall of rain is needed to fill irrigation dams, which in most cases are very low. Sub-soil moisture is required in most fruitgrowing districts, and a copious downpour in the near future would be of inestimable value.

Fruit in cool storage is being rapidly depleted and Apples are realising unprecedentedly high prices.

Viticulture.

The season continues to be abnormally dry. At the Rutherglen Viticultural Station, only 10.5 inches of rain have been registered since January 1. The average to end of September is 16.3 inches, and for the year 21 inches. Other districts have fared even worse. Unless plentiful

C. A. NOBELIUS & SONS Pty. Ltd.

Growers of First-class
FRUIT TREES
ORNAMENTALS
Etc.

Retail Price List printed 1st March. Write for a Copy

Gembrook Nurseries - - Emerald, Victoria

'Phone Box Hill 154.

Telegrams: Nobelius, Box Hill 154.

rains fall in spring a big vintage is unlikely, except under irrigation.

In irrigated areas the early spring watering is being very generally availed of.

The vines are now sprouting, and though premature to forecast, the "show" of fruit on early vines seems satisfactory.

Citrus.

The Citrus groves generally are looking well, and there is promise of good blossoming. The Navel crop is now being marketed from all over the State and prices, generally, are good, superior class Navels bringing over £1 per case.

Valencia Late Oranges are now coming on the market, with promise of good prices later on.

The juicing machines installed by the Railways Department and leading cafes in the cities and large provincial towns, are assisting materially in disposing of a quantity of lower grade Oranges, and as a result good quality fruit is maintaining its price. This applies also to Lemons.

Since this report was prepared severe frosts occurred in Northern and North-western Victoria on 25th and 26th September. At Mildura the damage is very severe; approximately half the crop has been destroyed. Some vineyards have lost

nearly all their crop, whilst others have scarcely suffered at all. Sultanahs have suffered most, but currants are in some localities seriously affected. Gordos, Doradillos, and Walthams, which sprout later, have suffered much less damage. Nyah and other centres in Swan Hill Shire have also suffered considerable loss, but Rutherglen and other places in the north-east are only slightly affected.

HARCOURT NOTES.

This Spring has been so dry that the spray programme for Black Spot has been modified considerably. The usual practice is Lime Sulphur 1 in 25 as first blossoms open, and if the weather is favourable to this disease 1 in 33 is added to the arsenic sprays, according to present indications these latter will not be required.

Red Spider is more prevalent than usual, and the use of 1 in 100 Red Oil and 1 in 800 nicotine added to sprays for Codlin Moth should keep it in check.

Codlin Moth sprays will continue up to February, about 8 or 9 applications being necessary in this district.

Green Manuring is practiced here, Peas being sown at the rate 1 bus. per acre, 3 to 4 cwt. of super. being

applied when seeds are sown. Failing green manuring, super. is generally applied in the Spring. The nitrogenous manures are coming more into favour, and results justify their application.

The crop prospects for the coming season are very promising. Never before has there been such an abundant show of blossoms on all fruits, the individual blooms being of large size, and the trees generally of a healthy and vigorous appearance.

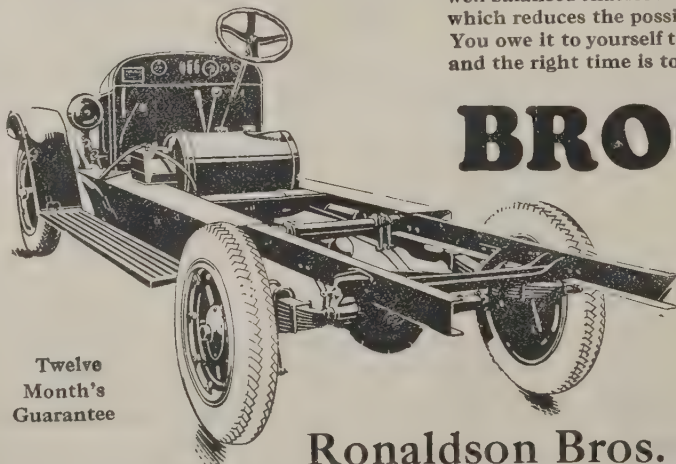
The Coliban reservoirs, which supply irrigation water for this district, are not yet full, about 8,000 acre feet being required. The total capacity is 38,000 acre feet.—Jas. H. Lang, Harcourt, 17/10/27.

YOUTHS FOR FARM WORK.

The White Star liner, s.s. "Vedic," has sailed from Liverpool with 636 new settlers for Australia. Included in the contingent there are 200 farm youths who have had some training at the Salvation Army's English Farm Colony.

Farmers and others in need of help are invited to communicate with the Secretary, Salvation Army Immigration Department, 123 Exhibition-street, Melbourne. The vessel is due in Melbourne about November 27.

... the truth about Truck economy



Twelve
Month's
Guarantee

LOW initial price is sometimes mighty tempting to those not acquainted with Truck values. But experienced Truck owners know that good Trucks cost much less per ton-mile, per month and per year. This is true economy. The "Brockway" 25-30 cwt. and 30-35 cwt. speed Trucks are the ideal combination of sturdiness and easy riding, of economy and dependability, of speed with safety. They are specially adapted to the Orchardist's requirements. The well balanced chasses with low centre of gravity gives low cushioning which reduces the possibility of damage to goods to a minimum. You owe it to yourself to investigate the "Brockway" line of Trucks and the right time is to-day---NOW.

BROCKWAY

Speed Trucks : 25-30cwt. and 30-35cwt. Heavy duty models, 2-ton, 3-ton, 4-ton, 5-ton and 6-ton. Make a point of seeing the new model "Brockways" before you purchase any other Truck.

Ronaldson Bros. & Tippet Pty. Ltd.

Showroom 630a BOURKE STREET, MELBOURNE
SERVICE STATION : 527 SPENCER STREET MELBOURNE.

FIGHTING INSECT PESTS IN THE ORCHARD.

Rutherglen Bug.

These destructive plant bugs will now be making their appearance. When noticed use the phenyle spray. This is prepared as follows:—

Take 1 quart of phenyle, 3lb. washing soda, 1 bar yellow soap, 40 gal. water. Shred the soap and dissolve it in hot water, to which the other ingredients should be added, and the mixture made up to 40 gal.

Cutworms.

The caterpillars of Cutworm moths are now appearing in orchards in various parts of Victoria, and are causing damage to the young buds and fruit on apple trees. Spray with arsenate of lead 1 in 25.

Codlin Moth.

The Victorian Department of Agriculture has recently issued a pamphlet on the life-history of the Codlin Moth, and remedial measures against same. Copies are obtainable free of charge on application to the Department of Agriculture, Melbourne.

The Common Thrips.

This destructive species is closely allied to the Citrus Thrips. The remedy recommended for Citrus Thrips should also be used against this species.

Woolly Aphis or American Blight.

In the summer, especially during November, December, and January, the Woolly Aphis is exceedingly abundant upon the limbs of the apple trees. A pamphlet dealing on the treatment of this insect is obtainable free on application to the Department of Agriculture, Melbourne.

The Woolly Aphis parasite (*Aphelinus*) should now be liberated in orchards affected with the American Blight or Woolly Aphis. These parasites are obtainable from the Orchard Supervisors or the Department of Agriculture, Melbourne.

Pear-Leaf Blister Mite.

This mite is now making its appearance on Pear leaves. The leaves are so affected as to produce reddish or dark brown spots which become darker with age, and may cover the whole foliage and destroy same. The mites are very minute, and can be seen only with the aid of a microscope. They pass the winter on the trees under the bud scales, and begin to work on the leaves in spring. They cause galls or swellings. Pears and Apples are seriously affected by them.

Lime sulphur, nicotine sulphate and black-leaf 40 are recommended. Citrus Red Spider (Mite).

The insects are red and scarcely

larger than the point of a pin. They often occur so abundantly as to give the fruit and foliage a red colour. The eggs are globular and red, as are also the younger stages. Mites usually occur during the warm summer weather.

Same remedies as recommended for Pear-leaf Blister Mite.

The Citrus Thrips.

The adult Thrips are orange-yellow in color. They are very minute, so small as to be scarcely observed by the average orchardist. They scar the fruit in such a way as to form nearly regular circles around the stem and blossom ends, although these scars may extend almost over the entire surface. These Thrips usually occur in the warm weather. They also attack Vines, Pears, Plums, etc.

Use lime sulphur diluted at the rate of one part to 80 parts of water, and tobacco extract (40 per cent. nicotine) diluted one part to eighteen hundred parts of water. It is necessary to spray just after petals have fallen, and again in about a fortnight.

Black Peach Aphis.

These insects are very numerous at the present time. The young are reddish yellow or brownish, and are always more abundant than the shiny black adults. The insect winters over on the roots of Peach trees,

where it may also be found in summer. The first insects usually appear in early spring. As soon as the buds, young fruit and leaves appear they are attacked, and often the entire crop is almost completely ruined.

Spray with nicotine sulphate or black-leaf 40.

Green Peach Aphis.

These are also very plentiful this season. Use remedy same as for Black Peach Aphis.

Pear and Cherry Slug.

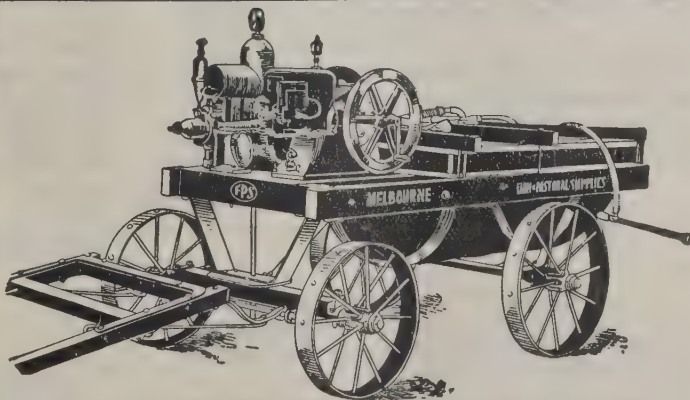
The greenish black slimy larvae of this "Saw Fly" will be making their appearance. Spray trees with arsenate of lead or dust them with lime, soot, ashes or sand. When fruit is ripening use Hellabore sprays.

Apple Root-Borer.

These beetles are now to be found on the Apple, Pear, Vines and other trees and plants. Spray at once with arsenate of lead 1 in 20. Place zinc bands around trees to prevent them from ascending the trees to deposit their eggs on the leaves. Place Root-borer traps on trees. Shake branches of tree over piece of old blanket spread on ground, pick up and destroy Borers falling on blanket. Keep weeds away from trees.

Painted Apple Moth, Black Cherry Aphis, Pear Root Aphis, Loopers.
See "Fruit World, October, 1927.

THE NEW HERCULES SPRAYER



The Machine that has been adopted by the leading Orchardists of Victoria, and proclaimed by them to be the most efficient and reliable Orchard Sprayer obtainable. Supplied with 1½, 2½ or 3½ h.p. HERCULES Engine, geared direct to Metters' Double-acting Power Pump. Built also on two-wheel transport. Write at once for particulars, or apply for a free demonstration in your own orchard.

THE FARM & PASTORAL SUPPLIES
PTY. LTD.
Machinery Merchants,
500 BOURKE STREET, MELBOURNE



Karswood will enable your fowls to "carry on" practically the whole year through

FOWLS that are now beginning to go off laying will exhibit an increasing tendency towards a diminished egg supply as the weather gets hotter.

Karswood Poultry Spice corrects this tendency, and enables fowls to "carry on" as well or almost as well as they did during the "peak" period of egg-laying. They can do this because Karswood "tones up" the fowl's nervous system and creates sufficient energy to replace that dissipated by regular egg-laying and the hot weather.

This fresh supply of energy is derived from the dried and ground insects which Karswood contains. Insects are fowls' natural diet, and supply the assimilable phosphorous essential for the formation and growth of big eggs.

Over half-a-million poultry owners in Great Britain and Australia have successfully used Karswood. Give it a trial. It is quite economical. A 1/- packet contains sufficient for 20 hens for 16 days.

"No One Ever Gave It Up."

Dear Sir,

In reply to yours of the 24th, you are free to use mine of the 20th as a testimonial, though "Karswood" deserves a better "Boost" than I can supply.

I induced several people to acquire the "Karswood" habit; they also passed it on to others, and no one ever gave it up after a trial.

My experience in breeding shows stronger chickens hatched when the foundation stock are "Karswood" birds. It brings hens through the moult in better condition.

"Karswood" produces an atmosphere of "Contented Brightness in the Fowlyard"—

how is that for a slogan for you. It is true, every bit.

(Sgd.) MISS M. SHORT,
North Manly.

Note the Economy.

- 1/- packet supplies 20 hens for 16 days.
- 2/- packet supplies 20 hens for 32 days.
- 13/- (7lb. tin) supplies 140 hens for 32 days.

Supplies.

Karswood Poultry Spice is obtainable at all wholesalers and stores at the following standard retail prices:—½lb. packet, price 1/-; 1lb. packet, price 2/-; 7lb. tin, 13/-; 14lb. tin, 25/-; 28lb. tin, price 48/-.



BROODING OF CHICKENS.

(By J. H. Madrers, Seaview Poultry Farm, Kogarah, N.S.W., in "Poultry Raising," a useful booklet issued by the Vacuum Oil Co. Pty. Ltd.)

THE SUCCESS of any poultry farmer varies in no small measure according to the extent of his ability to brood and rear chickens. This may seem a strong assertion, but it is a fact, for good brooding has a paramount bearing upon one's future operations.

A prime condition precedent to successful brooding is that the chickens are received from the incubators in a healthy condition, and that special care has been taken to guard against a chill during shifting operations from incubator to brooder.

In artificial brooding, one cannot do better than get as close to the hen as possible, for man has not yet, and probably never will, perform any task with the superlative correctness of Nature.

A Good Start in Life.

Given a good start in life, chickens develop into sturdy, profitable stock, provided, of course, the parent birds were right and incubation properly performed. One set-back, however, in the brooder stage invariably reflects itself in the adult life of the birds. Chickens subject to such experience grow into undeveloped, puny birds which, needless to say, are unprofitable to the owner. In addition, they provide a settling ground for each and every disease which comes along, and thus become a menace to sturdy stock.

A Reliable Brooder.

One of the essentials to good brooding is a reliable brooder, one that will give plenty of heat and is so constructed as to enable chickens to enter easily or "get away." Annually countless thousands of chicks are lost through inability to "get away," or, in other words, spread themselves to a position in the brooder where the heat temperature is to their liking and approximately correct.

The Proper Temperature.

Chickens should not be removed from incubator until twenty-four (24) hours after hatching, by which time the heat in the brooder should be 90 to 95 degrees with chicks in. It is important that the brooder lamp be lit some few hours before it is intended for use, thus ensuring thorough heating of the brooder and an even temperature. Evenness of temperature is of the utmost importance, to obtain which the best kerosene should be used. I have used the well-known brand, "Laurel," for many seasons, and can with confidence recommend it as ideal for the purpose.

The temperature already mentioned should be maintained throughout the first week, and from then on gradually decreased to nil, over a period of six to eight weeks. The duration of brooding with artificial heat is to some extent determined by the weather conditions of the moment. For example, chicks hatched in September and October could with safety be removed from brooders when six weeks old, whereas a longer period is desirable in preceding months, when weather temperatures are lower.

The chicks should now be removed to weaning pens and taught to roost. At this stage there is a danger of crowding into corners, resulting in many deaths from suffocation. To guard against this it is important to round off corners.

Feeding.

As regards feeding, my methods are as follows:—

See that clean water is available in the brooder as soon as chicks are placed therein—for this purpose vessels which will not permit the chicks to contaminate the water should be used. At the same time sieved shell grit and fine charcoal spread on a board until they learn to pick should also be available.

Do not give any feed for at least 48 hours after hatching; in fact, if this period is extended to 60 hours, no harm will be done. Remember that Nature, in her wisdom, provides all necessary food for the first few days, in the shape of the yolk of the egg, which chicks absorb as a last act

prior to leaving the shell. It is of vital importance that the yolk be thoroughly digested before any feed is given, as failure in that direction is usually the cause of bowel troubles and indigestion.

For the first four (4) days give flaked oatmeal, just as much as they will clean up in ten minutes—a feed about every two hours is desirable. After four days feed mash composed of one-third bran, two-thirds pollard, to which must be added a little cornmeal and also salt on the basis of four ounces to 20 lbs. mash. Damp to a crumbly mixture with milk (if available), otherwise water. Give four feeds of this mash per day, and in addition one feed of good chick grain mixture—the latter to be the last feed of the day. Continue this feeding up to eight weeks, and then gradually work on to the same feeding as given to adult stock, remembering always that young growing birds require feeding oftener than fully developed birds.

Floor Coverings and Cleanliness.

After trying all kinds of brooder floor coverings I find sand and chaff the best. It encourages chicks to scratch and prevents toe-picking.

Cleanliness of the brooder must on no account be overlooked. Each morning droppings in the compartment where the chicks have slept over night should be removed, and the sand then turned over.

SIX PRACTICAL POINTS.

In addition to the foregoing, the following few points are recommended:—

Don't turn down light, especially in early morning, when brooder should be hot enough to warm one chick only, if necessary.

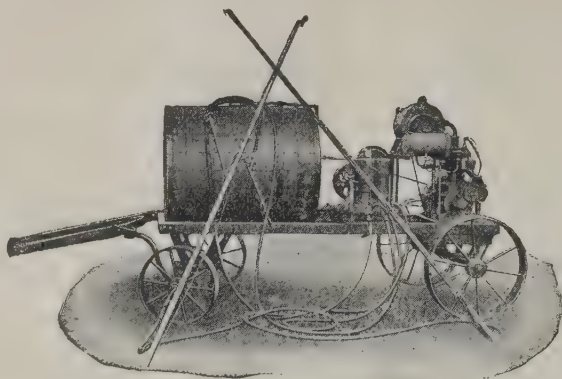
Don't try to rear weak chicks or cripples, for they can never develop into anything worth while.

Don't fail to be always on the lookout for lice and mites. Chicks cannot thrive when they are about.

Don't fail to thoroughly clean and disinfect brooder between each hatch of chicks, and remove two or three inches of the surface of the run and replace with fresh sand or earth.

Don't over-feed, especially during first week. Best results are obtained by keeping chicks just a bit on the hungry side during the first week or ten days.

Don't overcrowd in brooder. See that they have plenty of room, especially after three or four weeks, when they should be divided. A brooder holding 200 "day olds" will not accommodate more than 100 at four weeks of age.



For

SPRAYING, LIME WASHING AND DISINFECTING

VERMOREL 3-H.P. MOTOR SPRAY
OUTFIT

PRICE £77/10/- COMPLETE.

Brief Specification:—3 H.P. Petrol Engine, two large compression cylinders, 66-gallon enclosed wooden tank, mechanical agitator, four outlets, four 10ft. lengths of india-rubber tubing, four variable spray lances (two 18in. long, two 9ft. long.)

The pump works at a pressure of 175lb. per square inch. The spray lances can be adjusted without

stopping spraying to throw a spray to any distance from 2ft. to 30ft. from the nozzle. A height of almost 50ft. can therefore be sprayed from the ground.

All Types of Sprayers Made, 1½ Pints to 88 Gallons. Prices from 3/- to £77/10/-.

Full Particulars and Catalogues from—

COOPER, PEGLER & CO. LTD., 24d Christopher Street, London, E.C. 2.

BEES AND HONEY.

Hiving Swarming Bees.

Prevent the Colony from Swarming if Possible.

Bees in their natural state depend solely on swarming as a means of ensuring the survival of their species. Some apiarists rely on this natural method as a means of increasing the number of their colonies, but the more practical man aims at minimising the number of natural swarms, and prefers to depend on artificial methods of increase.

The conditions which induce a colony to swarm, are crowding in the hive and insufficient ventilation on warm days. Although these conditions are generally observed to be the chief reasons, bees will, on rare occasions, swarm without any apparent reason, and in spite of all the apiarist can do to prevent them. It is advisable, therefore, that apiarists should always be prepared for such an emergency, and should have on hand prepared hives and frames containing full sheets of comb foundation. Hybrid and black bees are more inclined towards swarming than pure Italian bees.

Preparing to Swarm.

A colony becoming populous, drones being raised, and the bees building embryo queen cells are the first signs that a colony is preparing to swarm. The next indication, and a sure one, is that a good number of eggs are noticed in the embryo cells, and the larvae which are hatched therefrom are fed lavishly with royal jelly. It is wonderful how the bees arrange

this preparation among themselves, and it is a recognised fact that scout bees will go out and select a new home, and even prepare it for the colony.

The swarm will usually issue about four days before the young queens are due to hatch from the cells, although conditions may cause the time to vary. Selecting a bright day if possible, the colony suddenly becomes excited, and the bees issue pell mell from the hive. Practically all the bees that can fly will leave, accompanied by the queen. Under natural conditions they will usually select a place and cluster, a shaded spot about a low bush or shrub being preferred.

Preparing Hive for the Swarm.

It is usual for the swarm to cluster near the apiary, and therefore, the most convenient method is to carry the prepared hive to the clustered swarm. A frame of brood containing some eggs and larvae should be put in the prepared hive, the remainder of the frames for the brood chamber to be made up of full sheets of comb foundation.

It is not always convenient to shake a swarm into the hive, and a tin dish or bucket to scoop them in with will be found convenient. Tip the first lot into the hive, and dump the remainder near the entrance, care being taken to enlarge the entrance for the time. When the bees have entered the hive, which should give ample accommodation, it can be put on a new stand.

When the swarm has been attended to, the parent colony should be inspected and queen cells removed, leaving one selected for size and appearance. When increase is not desir-

ed, the apiarist should remove the parent colony and place the newly-hived swarm on the stand. The hive containing the parent colony is then cut down to the brood chamber and placed alongside the new swarm, the entrances facing the same way. All queen cells are removed, and the colonies allowed to remain for eight days, when the parent colony is examined, any cells destroyed, and the hive body containing the brood and bees placed on top of the swarm colony.

Clipping the Queen's Wings.

If a swarm should cluster on a high limb and no swarm-catching device is on hand, a simple and effective method is to strap an open-ended kerosene tin to a long thin sapling, and work the edge across the swarm so as to cut most of the bees into the tin; then lower and tip the bees into the prepared hive. Repeat the operation and tip the next lot at the entrance.

Some apiarists clip the wings of all laying queens, mainly for convenience during the swarming season. It should be kept in mind, however, that in the case of clipped queens the swarm will not cluster because the queen cannot accompany them. The flying swarm, therefore, will be somewhat under control, and the clipped queen should be found and caged.

The parent colony should then be removed from the stand, and in its place should be placed a hive prepared to receive the new swarm. The caged queen should be placed at the entrance to this hive, and the flying swarm will return to the hive when they discover their queen is not with them.

PORTS OF THE LONDON AND NORTH-EASTERN RAILWAY.

Hull as a Fruit Market.

THE QUESTION of economical marketing is of the most vital importance to the Australian and New Zealand producer, who has to compete in British markets with countries nearer the Old Land, and countries which employ cheap colored labour. It is, therefore, essential to adopt the most efficient and economical means of distribution for our produce, involving the judicious use of the outports of Great Britain to widen the scope of marketing, and to reach the big industrial centres in the North of England. This is by direct shipment to the ports serving these areas.

How many Australian exporters of fruit appreciate the fact that Hull boasts the second largest fruit market in the United Kingdom? The sales held there during the season are attended by representatives from not only all over the Home country, but also by large numbers of buyers from the Continent, one of the features of the port being that it possesses better direct steamship services to the Continent than any other port in the Kingdom, including London. In spite of this fact, only a relatively small proportion of fruit exported from Australia and New Zealand reaches the Hull market.

Hull is the natural distributing centre for a population of about 12,000,000. Within the last 20 years a vast coalfield has been discovered in Southern Yorkshire and Lincolnshire, which will yield an output of 12,000,000 tons annually. It is expected that a rapid increase in the industrial population of this locality will take place within the next few years, thus providing an even greater market for Australasian foodstuffs, particularly fruit.

The Port of Hull ranks third in importance in the United Kingdom.

The Hull docks are thoroughly up-to-date, and provide accommodation for the largest overseas vessels. Many lines regularly trading between Hull and Australia have refrigerated space which is not at present fully availed of. Special attention has been given at the port to the requirements of the fruit and vegetable trade. Fruit sales are held within a few yards of the point at which the fruit is landed, and fruit purchased by out-of-town buyers can be loaded direct to waggon for conveyance to destination. There are also three large cold stores in the port.

It should be noted that the Hull docks are owned by the London and North-Eastern Railway Company, the largest dock-owning railway company in the world, which also controls the port facilities of the East Coast from Harwich to the Tay. Over 50 per cent. of the home-grown and imported foodstuffs of Great Britain passes through the docks or over the railways of the company. The unified control of docks and railways provided for efficient and economic handling and distribution. The foregoing facts are gleaned from "Ports of the London and North-Eastern Railway," an interesting volume received from Major H. S. Cole, Australasian representative of the L.N.E.R. The book, which is copiously illustrated, gives full details in regard to docking and transport facilities, trade of the various ports, etc.

As instancing the development of Hull in the overseas fruit trade in recent years, it may be mentioned that in 1921 sale of South African oranges at Hull totalled 217,000 cases; in 1926 the estimated sales were not less than 800,000 cases. In 12 consecutive months approximately

8,000,000 packages of fruit and vegetables were marketed in Hull.

Development of Outports.

The need for the development of British outports is being everywhere more clearly recognised. On July 27th Sir James Cooper (Chairman of the London Agency of the Australian Dried Fruit Board), Mr. A. E. Hyland (Director of Australian Trade Publicity), and a party of prominent Australians visited Hull and inspected the docks and other facilities for handling Australian produce. Among those present were: Mr. W. Cattanaach (Chairman State Rivers and Water Supply Commission of Victoria) and representatives of the Dried Fruits Board and Dairy Produce Board. The delegates were greatly impressed with the facilities at the port, and appreciated the obvious desire on the part of merchants and traders to foster Empire trade in every way.

Speaking at Cardiff recently, Sir Halford Mackinder (Chairman of the Imperial Economic Committee) said that the next generation would see a certain change in regard to ports. Hitherto two ports had been far more

Pope's New Irrigation System

Pat. Nos. 9127/22 & 21419/25



The **LATEST**,
CHEAPEST, and
BEST, for **FRUIT**,
FODDER and
VEGETABLE
CROPS.

(See descriptive
matter in October
issue.)

One of many tes-
timonials:

Pope Sprinkler Co., Croydon.
Gentlemen,

Highbury, S.A.

Having used your irrigation system on my Orange Orchard for two seasons, I consider it the most effective method of orchard irrigation I have yet heard of. The output from the pump delivering eleven thousand gallons per hour, at thirty pounds pressure, is comfortably handled by one man without the necessity of any stop during the day, and by allowing the pump to run for an hour after he leaves work, I get ten hours pumping, or one hundred and ten thousand gallons of water applied for eight hours' work, and an absolutely even distribution of the water as well, in addition to effecting a great saving in labor.

Needless to say, I should not like to have to return to the old furrow and check system of irrigation.

Yours faithfully,
L. J. WICKS.

Full particulars from any of the following:—

Pope's Sprinkler and Irrigation Coy., (Patentees)

ROBERT STREET, CROYDON PARK, S.A.

Agencies: John Danks & Sons Pty. Ltd., Sydney.
John Danks & Sons Pty. Ltd., Melbourne.
Messrs. Clark & Fawcett, Brisbane.
Messrs. Harris, Scarfe and Sandover Ltd., Perth.

important than any others—London and Liverpool. The coming generation would see the development of the Humber and the Severn ports. In each case there was a great coalfield behind. The Imperial Economic Committee had considered whether goods coming from the overseas Empire might not with advantage be distributed over a greater number of ports rather than a few centres. If we were to have efficiency and use the large expenditure of capital laid out at the various ports, means must be provided so that overseas exporters sent their goods not merely to the Thames and the Mersey, but also to the Severn and the Humber."

RESEARCH INTO PRODUCERS' PROBLEMS.

Work of the Commonwealth Council.

We have received a copy of the first issue of the "Journal" of the Council for Scientific and Industrial Research, which outlines the work of the Council since its re-organisation in 1926. The "Journal" includes reports of the work done up to the present, and will provide a valuable means of disseminating general information as to Australia's scientific problems and the researches being undertaken to overcome them.

In a review of the organisation and

work of the Council, Senator Sir George Pearce outlines the work already done. In regard to plant problems he says, inter alia:—

"Another important investigation is that which the Council is carrying out on certain plant diseases in co-operation with the Waite Agricultural Research Institute, South Australia. An insect-proof glasshouse has been erected for the purpose of carrying out research work on virus diseases, soil-borne fungous diseases, and possibly other diseases of plants. For the present, work is being concentrated on Tomato wilt, a disease which originated near Melbourne in 1915, and which has spread to all the Tomato-growing States. In certain years it has been very destructive over large areas, and in some localities has been so severe that whole plantations have been destroyed. The first object of the investigation is to ascertain the precise nature of the disease, and the means by which it is transmitted. Concurrently the investigation of other plant diseases will be undertaken at the Waite Institute, and efforts will be concentrated on some other disease as soon as the intensive work on Tomato wilt reaches a stage to justify transfer of concentration.

"In Queensland, investigations are being carried out on two diseases of Bananas, viz., 'bunchy-top' (results

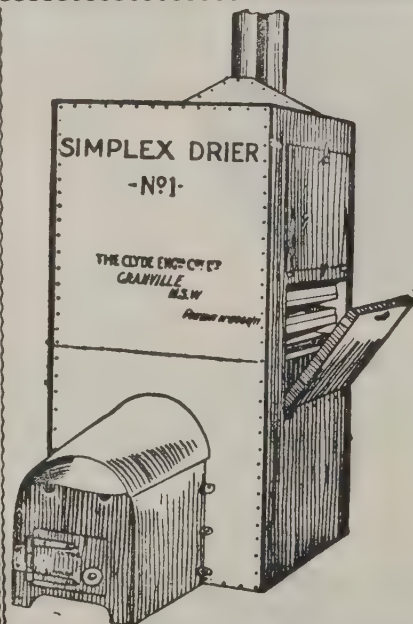
of the investigation are published elsewhere), and 'squirter.' The major part of the investigations on 'bunchy-top,' a disease which has practically wiped out the Banana plantations in certain areas, has been completed, its cause and the means by which it is spread have been discovered, and recommendations for control have been made to the State authorities. During recent years, a disease known as 'squirter' has become prevalent, and occurs particularly in fruit sent from Queensland to the southern markets. It consists of a softening and darkening of the centre of the fruit, and an eventual conversion into a mushy liquid. The investigations so far carried out indicate that the disease is due to certain conditions of storage and transport, and that it is related to similar troubles which arise in other fruit, such as 'brown-heart' in Apples."

The investigations in the biological control of Prickly Pear are fully dealt with, as well as other problems of scientific and practical interest. It is hoped to publish further extracts from the journal in future issues.

An Ag. Student.

Marie: "And at the place where I stayed this summer a green young hired hand tried to kiss me. He told me he'd him?"

Marie: "I told him that I was no agricultural experiment station."—Pacific Rural Press.



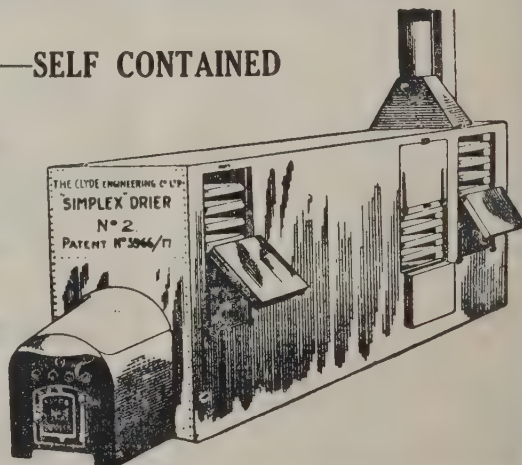
The Clyde Simplex Driers

For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES

SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
or
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

THE COMPOST HEAP.

Don't Buy Manure—Make It.

The compost heap is a most valuable adjunct to the vegetable garden, and it is a very great pity that it is not to be found more frequently even on the ordinary farm.

A heap or pit can be made very economically, and is of special value in that it utilises all sorts of vegetable and animal refuse, which would otherwise be wasted, and converts it into a valuable manure, rich in vegetable matter, and eminently suited for intensive cultural conditions, says the N.S.W. Dept. of Agriculture.

The principle upon which the compost heap acts is the fermentation of easily decomposed vegetable material in the presence of earth and lime. Not only are substances like peat and straw, which form the usual basis of compost heaps, thus decomposable, but almost every kind of organic substance, both of vegetable and animal origin, can be composted. Dead leaves, bush scrapings, weeds, tops and stalks of vegetables, as well as bone and animal refuse, can be treated in this manner. In the case of animal refuse the operation is much slower, and substances like bones should be crushed first. It is also important to be sure that animal refuse so treated is not derived from a diseased source.

The method of making and maintaining the compost heap will vary largely with local surroundings. As a general method of procedure the following will be found satisfactory:—Make a heap with alternate layers of earth, refuse, and lime. Under the term refuse, is included all the waste material, either animal or vegetable, mentioned above. Cover the whole with a layer of earth. When a sufficient quantity of refuse is again collected, place it on top of the heap and cover with a layer of lime, and lastly of earth, until the heap is 3 to 4 ft. high. The heap should be kept moist, and for this purpose all refuse water from the house, slops, urine, &c., should be added. The heap may be conveniently watered by making a hole into the interior and pouring the liquid in. The final covering with earth has the object of absorbing any ammonia which is evolved in the process of fermentation and by the action of the lime.

When the heap has been prepared it must be left for some time to allow fermentation to take place. Probably a few months will be sufficient, unless very refractory substances, such as bone, &c., are present. Then it should be well forked over and an-

other layer of lime, and finally one of earth, should be added. In the course of another month or two, it should be ready for use, and will provide an excellent manure, rich in humus, at a very slight cost. It will have utilised for the purpose a great amount of material that would otherwise be lost or burnt. When refuse material is burnt, the ashes, though still possessing manurial value on account of the lime, potash, and phosphates they contain, are of incomparably less value than the original substances out of which they are derived, owing to the absence of humus material and of nitrogen, which have been lost in the process of burning.

Instead of a heap the compost may be conveniently prepared in a pit. In either case the bottom should be cemented, or so drained that the

liquid escaping from the mass can be collected and returned to the compost.

A second heap should be prepared while the first one is ripening, and being used. If it is desired to use superphosphate, potash, ammonium salts, and other concentrated fertilisers, they may be mixed with compost manure before it is added to the soil. Used in this way greater benefit will be derived than if they were applied direct to the soil, and there will be less danger of leaching.

PATENTS
GEORGE A. U'REN
 PATENT ATTORNEY
 "499 LITTLE COLLINS ST.
 HEATY HOUSE. MELBOURNE."

HE CALLED IT AN INVESTMENT



Good farmers (and orchardists) learn early in their careers that money spent on fertilisers is not an expense. It is part of their investment in the land, though incurred annually. Those who, last Spring, helped to make

Sulphate of Ammonia

sales a record will be able to show this year just what a sound investment the money spent on sulphate of ammonia was. Everywhere last Spring one heard that there was going to be a lot of sulphate of ammonia used. And there was. But there'll be more used next year.

Order Early from
 THE METROPOLITAN GAS CO.
 196 Flinders Street - - - Melbourne

Timm & Gerstenkorn

Fruit Auctioneers and Brokers

Fruchthof . HAMBURG . Germany

Established
1885

★
Special
Catalogues
showing
prices
issued
after
each sale



Tel.-Addr.:
"Timmkorn
Hamburg"

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired
BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

-LEMONS-

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vc.

Ship Your Oranges,
Lemons, Grapes to
New Zealand



All consignments for
this market will have
careful attention and
realize highest prices
if sent to

The Co-operative
Fruitgrowers of Otago
Limited, Dunedin

Personal supervision of
every consignment.

Cheques posted promptly.
Drop us a Line or Cable
"Peachbloom," Dunedin.

The New Synthetic NITROGENOUS FERTILISERS

Which are revolutionising Agricultural Methods in Europe and America.
are available now in Australia.

Here are some of the chief Features:—

- (1) High Concentration of Pure Plant Food ONLY.
- (2) New and Cheaper forms of Nitrogen.
- (3) Non-acid—non-alkaline—non-caking—easy Distribution.
- (4) Complete Solubility.

Di-Ammon Phos

25.5 per cent. of soluble phosphoric acid.
20.6 per cent. Nitrogen as Ammonia.

Synthetic Urea

45 per cent. Nitrogen—similar to Urine.

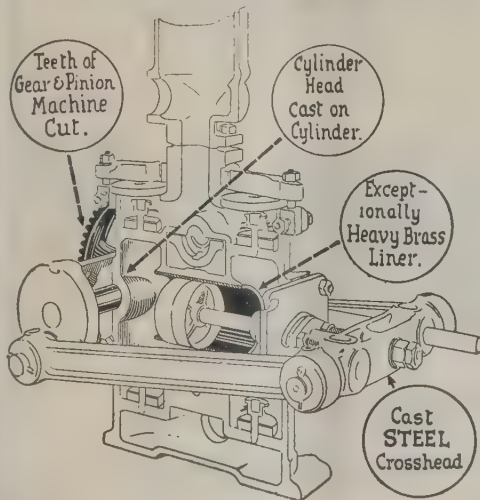
Do not neglect to introduce these this Spring.
Other Epoch-making Manures Available Shortly.

Watch for their announcement by the Sole Distributors for Australasia.

DYES & CHEMICALS (Aust) Ltd. 573-585 Lonsdale St., Melbourne
94-96 Harrington St., Sydney.

Agents in all States and New Zealand.

"MACSON" The Long Service PUMP



This diagram shows why "Macson" is a Superior Pump.

All over Australia there are "Macson" Pumps working as steadily and as efficiently now as they did when purchased years ago.

There are definite reasons, plenty of them, why "Macson" Pumps are noted for their long service.

Here Are Four:

1. Gear and pinion teeth are machine cut, thus ensuring quiet operation and long life.
2. The cylinder head and casing are cast in one piece, giving a remarkably rigid construction, and removing all possibility of leaking or blowing out of packing at this point.
3. The "Macson" cylinder has a heavy brass liner which is considerably thicker than that of any pump of a similar type. This means much to those who are in the country, as replacing liners is a costly and difficult job, and may even mean sending the pump to the city for repairs. The heavy "Macson" liner never needs replacing.
4. Crosshead, being made from steel, will withstand heavy knocks or strains that would break the usual cast iron crossheads.

"Macson" Pumps Are Economical Pumps

Such sturdiness and strength mean that your initial outlay is your last when you buy a "Macson" Pump. The "Macson" is an ideal outfit where pumping of almost any kind is desired, and for general water supply, including tank pumping for farms, irrigation, light oils, and spraying trees.

Spread over its long life of profitable service, the cost of a "Macson" Pump means only a few pence a month, and you get, for this trifling expense, the wonderful advantage of having water where and when you want it; irrigated, prosperous orchards and gardens, contented stock, and a thousand conveniences impossible without plenty of water. Every shilling spent on pumps returns you pounds—provided you get good pumps.

Make sure of good pumps by getting them from McPherson's, the Pump Experts

The "Macson" Double-Acting Piston Pump.

Made in Three Sizes:

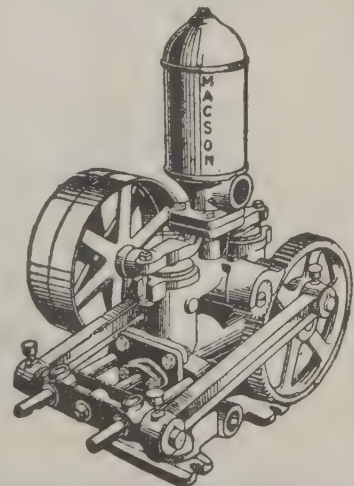
1½ in. size pipe, cap. 840 gals. per hour	£20
2 in. size pipe, cap. 1320 gals. per hour	£25
3 in. size pipe, cap. 2100 gals. per hour	£30

McPherson's
Proprietary Limited

582 Collins Street, MELBOURNE.

51-65 Bathurst Street, SYDNEY.

116-130 Waymouth Street, ADELAIDE.





On a 10-mile haul from Lower Norton to Remlaw Siding, Victoria, this Fordson Tractor made light work of the 72-bag load of wheat shown.

The Fordson lowers costs of heavy-duty haulage

FOR carting wool and wheat to rail or market the Fordson Tractor has proved itself the most efficient, dependable and economical road-haulage unit.

The Fordson, with trailer equipment, may be secured at a cost greatly under that of a heavy motor truck. Greater haulage capacity with lower operating expense is a further Fordson advantage.

The Fordson, with rubber-tyred road wheels, is performing many heavy haulage jobs throughout Australia. For instance, one Fordson owner hauled twelve tons of salt, under favourable road conditions, as a single Fordson load. And the Fordson which hauls the wool and wheat of the man on the land, serves him also for every field-work job. Road wheels are changed to agricultural wheels with little trouble and in short time. With its many belt work uses, too, the Fordson need not be idle one day in the year.

Ask your nearest Ford dealer for details of Fordson equipment and for facts about Fordson economy in heavy haulage work.

Fordson

THE UNIVERSAL TRACTOR

FORD MOTOR COMPANY OF AUSTRALIA PTY. LTD.

BRANCHES IN ALL STATES

Fruit Growers and Exporters !

COMPARE THE AVERAGE PRICES

realised for Australian apples at

MANCHESTER

and other British markets respectively last export season; the figures are extracted from official returns published weekly by the British Ministry of Agriculture, and cover the period from 22nd April to 5th August, 1927, inclusive:—

1st Quality.	Hull.	Liverpool.	London.	Manchester.
	s. d.	s. d.	s. d.	s. d.
Cleopatras	19 3½	18 5½	18 1½	20 6
Dunn's Seedlings	17 7½	—	16 8½	19 8
Jonathans	16 6	16 4	16 6	18 9½
Sturmer Pippins	17 3½	17 2½	17 6	19 6½
2nd Quality.				
Cleopatras	16 11½	15 8	15 6½	18 1½
Dunn's Seedlings	15 10	—	14 10½	18 0½
Jonathans	15 1½	14 5	13 7½	16 8½
Sturmer Pippins	15 9½	15 6	16 4½	18 1½

The undersigned had administrative control and supervision of

The Manchester Markets and Imported Fruit Sale Rooms

for 15 years, and will be pleased to furnish all particulars regarding the Port and Markets, as also information re Steamship Services, Selling Brokers, Forwarding Charges to interior towns, &c.

Only two steamers carried Australian apples direct to Manchester last season, but large quantities were forwarded from other ports and disposed of each week in the local Sale Rooms—proof that there is a constant demand which should be met by direct shipment, thus avoiding unnecessary transport charges and risk of deterioration and pilferage.

When arranging next season's Export Trade ensure

Maximum Prices and Minimum Distributing Charges — By Direct Shipment to Manchester Docks —

situated 40 miles inland in the heart of the World's most densely populated industrial area, and

The Nearest Port to 12,000,000 Consumers

W. J. WADE

Representative of **The Manchester Ship Canal Co.**

8 Bridge Street, Sydney

Cables and Telegrams—"Portoman," Sydney.

Another Gerrard Time Saver

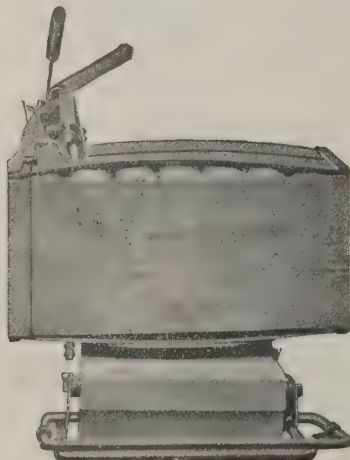
THE ADECO LID PRESS



Ready for Pressing.



Lid Depressed.



Case Turned for Wire Sealing.

In anticipation of the early adoption by growers of the CANADIAN STANDARD BUSHEL CASE, which will place our Export Fruit on the same price level as our overseas competitors, the Gerrard Wire Tying Machines Co. Pty. Ltd. have secured the Australian Rights for the

ADECO LID PRESS,

the invention of an orchard inspector of the New Zealand Department of Agriculture, to facilitate the easy nailing and wire-sealing of the Canadian Standard Bushel Case.

Can be used on any bench or in the orchard.

Saves a Lift of Approximately 2 Tons in Every Hundred Cases.

The Turn Table Reduces Time of Wire Sealing by 50%.

Made of Mild Steel.

Nothing to Get Out of Order.

Price, £5/12/6 f.o.b. Melb.

Gerrard Wire Tying Machines Co. PTY. LTD.

Head Office & Works, 119-125 Hawke Street,
WEST MELBOURNE.

Reiby Chambers, Reiby Lane, SYDNEY.

Queen & Charlotte Sts., BRISBANE.

Pirie Chambers, Pirie Street, ADELAIDE.

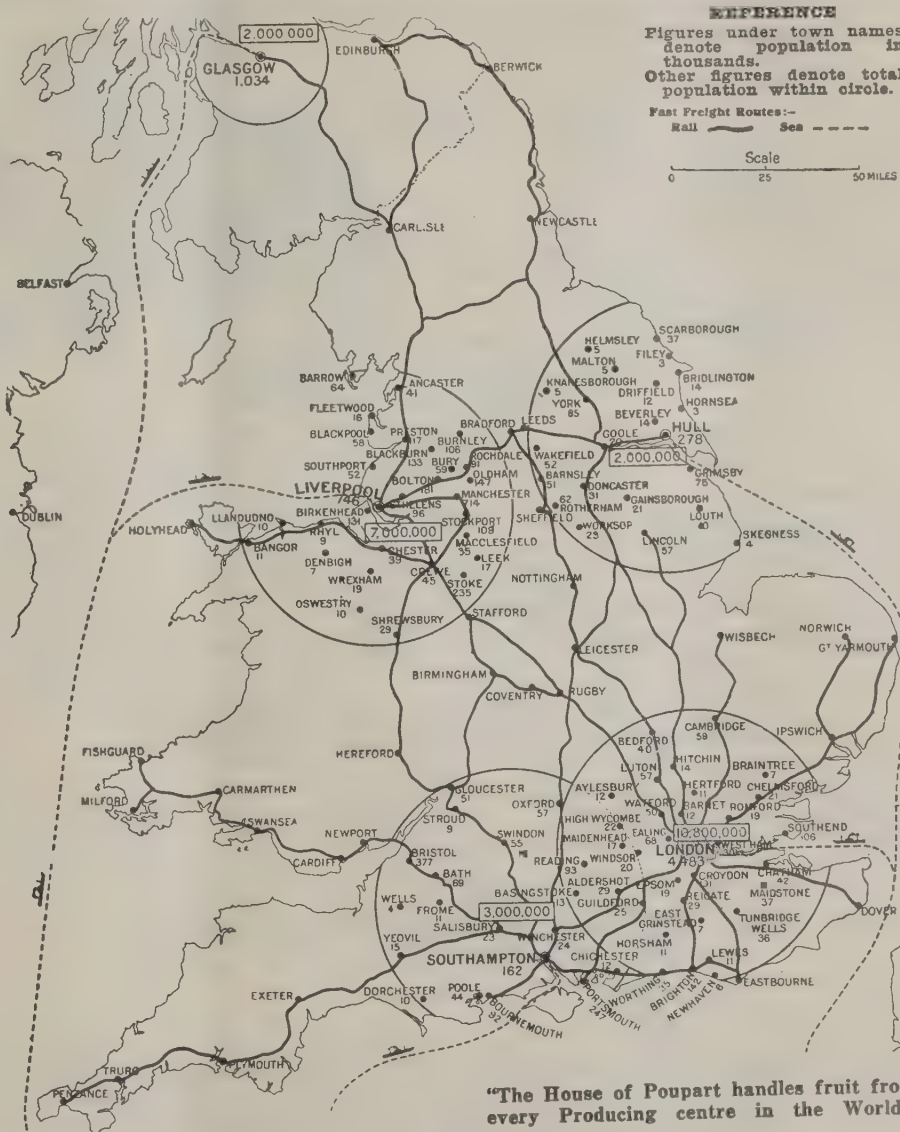
Selbourne Chambers, PERTH.

Davey & Murray Sts., HOBART.

"THE POUPART SALES SERVICE"

FRUITGROWERS THE WORLD OVER Avail yourselves of the **POUPART SELLING ORGANISATION**

In 1926 the T. J. POUPART SERVICE handled over 4,000,000 packages of fruit and paid £200,000 for freight.



"The House of Poupart handles fruit from every Producing centre in the World."

T. J. POUPART LTD.

LONDON - LIVERPOOL - HULL - SOUTHAMPTON AND GLASGOW

Tasmanian Growers ship through Eric Burgess Pty. Ltd., 88 Collins Street, Hobart.

Victorian Growers ship through Fred J. Andrew, 416 Little Collins Street, Melbourne.

South Australian Growers ship through A. W. Bowen & Co., Commercial Building, 9 French Street, Adelaide.

Western Australian Growers ship through Fordhams Ltd., Fremantle.

New South Wales Growers ship through C. Geo. Kellaway & Son, Office 25, City Fruit Markets, Sydney.

New Zealand Growers ship through Griffin & O'Brien, P.O. Box 104, 89 Hardy Street, Nelson.

The Ultimate cost is the one to watch!

Cooper "Perfect Balance" Sprayers are noted for remarkable economy

READ THIS EVIDENCE

Somersby, via Gosford,
N.S.W.

"I have had my Cooper Spray Plant for some considerable time, and it has been in pretty constant use, not only spraying acres and acres of orchard, but washing down vehicles as well.

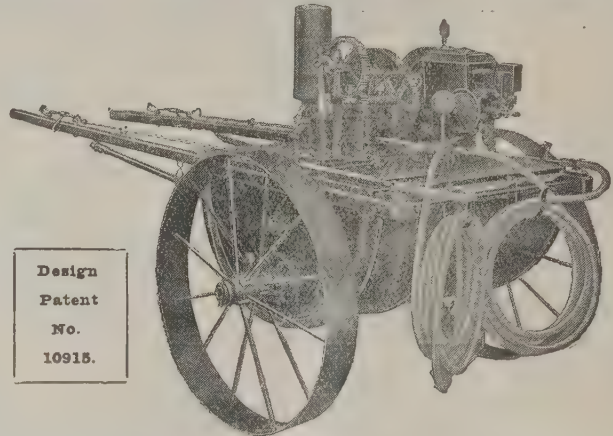
Without a doubt it is very economical—a good long day's work to the gallon of benzine being my experience with it. Any man of commonsense can keep engine and pump running well."

(Sgd.) S. G. SPENCER.

11/6/26.

*In the long run
the Sprayer that pays best is the*

Cooper



Design
Patent
No.
10915.

WRITE TO
Cooper Engineering Co. Ltd.
129-131 SUSSEX STREET, SYDNEY or
350-358 SPENCER ST., MELBOURNE
Australasian Implement & House Furnishing Co., ADELAIDE
Northern Motors Pty. Ltd., LAUNCESTON
Roberts & Co. Pty. Ltd., HOBART

NOTICE OF CHANGE OF ADDRESS

The Two Bays Nurseries and Orchards Co. Pty. Ltd. wish to notify their clients and friends that owing to the extension of their business, the registered office of the company, which was previously situated at 346 Flinders Street, Melbourne, will now be at

MOOROODUC, Victoria

Kindly address all correspondence to—

Two Bays Nurseries & Orchards Co. Pty. Ltd.
MOOROODUC, Victoria

WE HAVE AN EXCELLENT STOCK OF ALL CLASSES OF FRUIT TREES

Inquiries will receive our prompt attention

We shall be pleased to see our clients and friends at Moorooduc and show them around our properties

PHONE: FRANKSTON 57

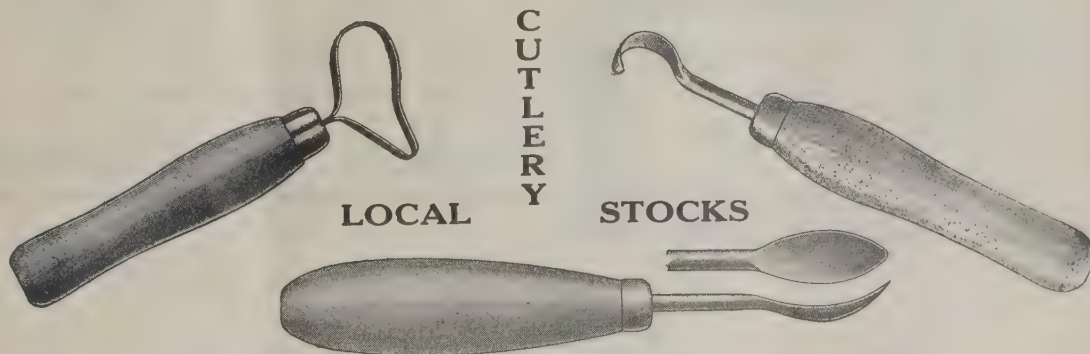
AUSTRAL OTIS-ANDEBAR CANNERY EQUIPMENT

Pty. Ltd.

Hanna Street, South Melbourne

Telephone : 9931

Box 3 P.O. Sth. Melbourne



LOCAL

STOCKS

TOMBS & HOWCROFT Pty. Ltd.

Sales Division : 369 P.O. Place, Melbourne

Telephone : 1917

Sole Australian Agents for
Root Dusting Mechanical
Appliances
(Patented)

Atomol Dusts Ltd.

Manufacturers of
DUSTING MATERIALS used as **INSECTICIDES & FUNGICIDES**
ON PLANT LIFE

DUMPHRIES PLACE
off GILLES STREET
ADELAIDE

Growers would be well advised to allot part of their orchards this coming season for the purpose of making a comparison between dusting and spraying. Providing that the correct dust and dusting mechanical appliances are used, we are convinced that dusting will be generally adopted for controlling all insect and fungi pests. Atomol dusting material and Root mechanical dusting appliances combine all the essential features of successful dusting. One man with a Root Hand Dust Gun, costing only a few pounds, will cover as much ground as a power spraying machine costing £100 or over in a given time.

SEND FOR OUR PAMPHLET, OR ENQUIRE THROUGH THE UNDERMENTIONED INTERSTATE AGENTS:—

VICTORIA:—

Irymple Packing Co., Irymple.
Irymple Packing Co., Merbein.
Sarnia Packing Co., Mildura.
Humphreys & Conran, Red
Cliffs.
Mr. G. W. Hall, Box 1, Bunyip.

NEW SOUTH WALES:—

Anderson & Co., George St., Sydney.
QUEENSLAND:—
Buzacotts' Queensland Limited, Brisbane.

WESTERN AUSTRALIA:—
Westralian Farmers' Union,
569 Wellington St., Perth.

TASMANIA:—

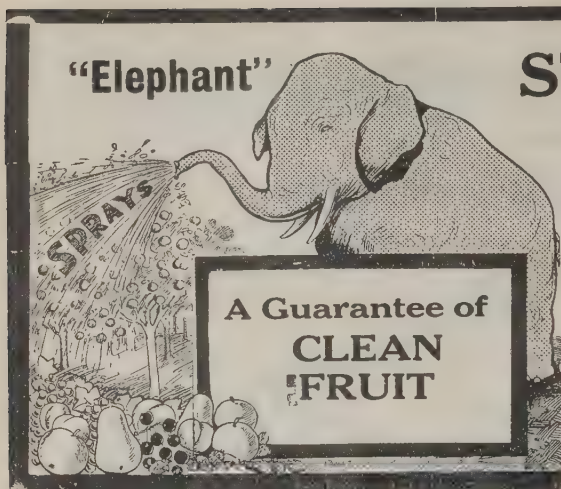
Charles Davis Ltd., 60 Elizabeth St., Hobart.

NEW ZEALAND:—

Harold Lightband Ltd.,
79a Lichfield St., Christchurch.

THE ROOT HAND DUST GUN IS AN IDEAL MACHINE FOR THE APPLICATION OF CALCIUM CYANIDE OR CYANGAS.

When writing advertisers please mention the "Fruit World."



STILL ON TOP!! ORCHARDISTS

Spraying is essential and your best Insurance—Therefore it is necessary to use only the Best Sprays obtainable.

The successful grower uses
"Elephant" Brand Sprays

ONLY

The Codlin Moth can be kept in check if careful attention is paid to spraying.

Experts say:—"Spray at regular intervals until three weeks before harvesting."

Note this and Use

"Elephant Brand" Arsenate of Lead

[Paste and Powder]

Other Elephant Brand Products

Bordeaux Mixture Powder - Bluestone - Lime Sulphur
Prepared Red Oil - Prepared Crude Oil

WRITE FOR PRICES AND PAMPHLET

JAQUES PTY. LTD.,

are the Actual Manufacturers and Distributors of Elephant Brand Sprays

Manufacturing Chemists, MADDEN GROVE, BURNLEY, MELB., Vic.

Telephone: J 2008.

INTERSTATE AGENTS:

Agents: Seedsmen, &c.

N.S.W.	Q'LD.	S.A.	W.A.	TAS.	N.Z.
PRODUCERS' DISTRIBUTING SOCIETY Ltd. Valentine & Quay Streets, SYDNEY.	BUZACOTTS LTD. Adelaide Street BRISBANE	SILBERT, SHARP & BISHOP LTD., Rundle Street, ADELAIDE.	WESTRALIAN FARMERS' LTD., 569 Wellington St., PERTH.	R. NETTLEFOLD PTY. Hobart. BELL & GERRARD Launceston. COCKER, BELL Pty. Devonport.	PIZZEY, McINNES LTD., Box 1114, G.P.O., AUCKLAND.

CONTENTS FOR DECEMBER

TYNONG ORCHARD, VICTORIA.

	Page.
Answers to Correspondents	497
Beekeeping Notes	519
Berry Fruits: Harvesting,	
Cool Storage, New Varieties	494-495
Canning Fruits: Goulburn Valley Fruits for Sydney; Brown Rot of Peaches; Green Peach Aphis	498-499
Census of Victorian Fruit Trees	xv
Citrus Fruits: Less Cultivation Tends Towards Better Soil Conditions	505
Codlin Moth, The	489
Dried Fruits: Uniform Dipping of Sultanias; Interstate Conference; Dipping Apricots; Australian Dried Fruits in London; American Grape Production	491-492
Export of Apples Overseas	487-488
Export Apple Competition	492
Fruit Marketing in Chicago	488
Fruit Crop Prospects: Australasian and Overseas	508-509
Imperial Fruit Show	507
Insect Pests in the Orchard, Fighting	517
London's Fruit Trade	511
Markets: British and Australasian	512-513
New Use for Discarded Auto.	xvi
New South Wales: Irrigation Areas; District News and Notes	490
New Zealand: Crop Reports and Market Prospects	506-507
Overseas Fruit Markets	504
Poultry Notes	519
Queensland: Crop Prospects; News and Notes; December Orchard Work	510-511
Ringling Loafer Apple Trees	xvii
South Australia: Crop Prospects; Growers' Reports; District Notes	496-497
Tasmania: Berry Fruits; District Reports; Orchard Operations	502-503
Tynong Orchard, Victoria	485
Victoria: Seasonal Reports and Crop Prospects; District News and Notes; Victorian Fruit Council	514-516
Western Australia: Fruit Crop Reports and Prospects, Orchard Work	493

SITUATED about 43 miles from Melbourne by rail, and on the Prince's Highway, at Tynong, is the orchard of Messrs. W. C. Thomas & Sons Pty. Ltd., which is beautifully located, and at the present time forms an attractive picture to motorists using this popular highway.

The area planted consists entirely of Apples, of about 140 acres, the main varieties being Jonathan, Rome Beauty, Statesman, Delicious, Five Crown, King David, Yates and Gravenstein. The age of the trees ranges from 9 to 14 years, with the exception of a few acres of young trees. The orchard appears to be making rapid progress during the last two seasons; at the present moment it is in the pink of condition, and is now carrying what should result in an excellent crop.

Through the courtesy of the owners the writer was enabled to visit this property, and was brought in touch with Mr. E. H. Hatfield, who has been supervising operations on the property for the last two seasons. The latter very kindly consented to give our readers an outline of the operations which, apparently, are being successful in the proper development of this orchard, and he indicates the methods adopted as follows:—

Pruning.—The main principle followed is to thin out all weakly wood and worn-out spurs, but otherwise to let the trees grow naturally. This means that in due time the fruit is borne wholly upon vigorous laterals. It has been found that this system has two advantages, first, to keep the tree growing vigorously by avoiding the severe checks occasioned by the ordinary system of hard cutting, and, secondly, to produce the highest grade fruit possible, for it aims at setting each fruit upon a young and well-conditioned shoot.

Manuring.—In view of the nature of the soil, light, friable, with a good clayey sub-soil, it was realised that to obtain satisfactory growth on the trees, a heavy dressing of manure was necessary. This took the form of about 1 ton of gypsum to the acre, with the addition, during the first year, of 4lbs. of super and 1lb. of Sulphate of Ammonia to the majority of the trees. In the following season the quantity of super was again increased, and it is proposed next year to give a very liberal dressing of gypsum together with a sowing of deep-rooted cover crops if considered necessary.

Cultivation.—Winter ploughing has been avoided for the following rea-

sons:—First, to avoid the excessive wetting of the trees in a district where the rainfall usually is very high; secondly, by keeping up a system of bare culture, the humus contents of the soil are quickly exhausted.

Ploughing, also, too early in the spring, will result in a caked sod, consequently it is firmly believed that ploughing in early October will give the best results, the aim, of course, being to prepare and keep a perfect dust mulch throughout the summer, and to break the soil across to allow of free root penetration. The soil is first turned over deeply, when it is in such condition that it will crumble as it turns, then work down, and early in December, ploughed again, but this time lightly. Cultivation is kept up until the autumn rains, and towards the end is done with a one-way disc throwing the soil up to the trees. As previously indicated, no cultivation is done throughout the winter. A central furrow in each land is cut out for a waterway and the weeds are encouraged to grow.

Spraying.—All the spraying follows a definite plan, which aims to control insect pests such as Aphids and Scales at the time when they are most easily reached and to catch spores of Black Spot when the fruit or foliage needs most protection. In early spring a combination of C.C.S. (prepared copper spray) and Maccoll was given. This served the double purpose of an insecticide and a fungicide. A second spray was given with B.T.S. (Barium Sulphate) as the petals were falling. It is claimed for this type of sulphur spray that it will not burn the young fruit or foliage, and therefore is a much safer spray to use than lime sulphur.

The time of the first arsenate application is fixed by the appearance of the looper caterpillar, no regard being paid to the closing of the calyx, as most people think so necessary. Further applications will be given in December and January, for experience has shown that the danger times are from the 1st to the 15th December, and about the middle of January. It is believed that later sprays are advisable should same be found necessary.

Orchard Equipment.—Cultivation is done by means of two Fordson Tractor Cultivators. Other equipment includes a complete and up-to-date battery of motor spray pumps, spray mixing depots, and a cool store of about 10,000 cases capacity. The whole of the property is being kept in excellent condition, and reflects great credit on all concerned in its operations.

Fruit Trees FOR 1928



Doubtless you are getting your land grubbed and cleared within the next few months for new orchard

But Have You Ordered Your Trees?

which mean to you — your very existence — so to speak — if those trees fail — it is unthinkable — after 5 or 6 years of hard work, hard cash — and no return in fruit or cash with your hopes dashed to the ground. You cannot afford to experiment but secure your trees from a reliable source

Catalogues and Information Free

JOHN BRUNNING & SONS
SOMERVILLE NURSERIES
SOMERVILLE VICTORIA AUSTRALIA

186 acres under intense cultivation.

Established 61 Years

"FRUIT WORLD OF AUSTRALASIA."

Representing the Deciduous, Citrus and Dried Fruits Industry of Australasia.

Published the First of Each Month.

Editorial and Management Notices.

Articles and Photographs.—The Editor will always be very pleased to receive articles and photographs for publication. Articles on spraying, pruning, drainage, marketing, and other cultural matters, and reports of meetings, are welcomed. Please write on one side of paper only; include name and address (not necessarily for publication). Press matter sent in an open envelope, marked "Printers MSS.," postage rate: 2 ozs., 1½d. Photographs, if sent in an open-ended package, marked "Photos. only," will travel at 2 ozs., 1½d. A short description of the photos. should be written on the back.

We do not hold ourselves responsible for the views expressed by our correspondents.

Subscriptions.

The annual subscription, post free within Australia and New Zealand, is 8/6. All other places, 10/6, post free. New subscriptions can commence at any date. Subscribers should notify us immediately of any change of address.

Renewal Subscriptions are due during the last month of the term covered by the previous payment, and unless notified to the contrary, the fact that the subscriber continues to accept delivery of the journal, is taken as proof that continuation of the subscription is desired, and we will continue to send regularly until notified in writing or copies are returned through the post.

Advertisements.

"The Fruit World of Australasia" is an advertising medium of proved value. Advertising rates may be had on appli-

cation to our Head Office, or to agents in the various States.

Changes of copy for advertisements must be in our hands on or before the 12th of the month prior to publication.

Readers are asked to make their purchases from our advertisers, who cover all lines of interest to orchardists, at the same time mentioning this journal. By so doing, the grower, the advertiser, and this paper will benefit.

Every care is taken to publish advertisements from reliable houses only, and to see that advertisements of an undesirable nature are not published. The management reserve the right to refuse to publish any announcements that they may regard as undesirable, either from the point of view of the goods offered or in the wording of the advertisement, notwithstanding the fact that a contract may have been entered into for the use of a certain space.

"The Fruit World" Offices (where copies and full particulars are obtainable) are as follows:—

HEAD OFFICE:

**Bank House, Bank Place,
Melbourne, Victoria**

Representatives in all States and New Zealand.

British Office: Harvey, H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

American Office: S. D. McFadden, Pacific Bldgs., Market Street, San Francisco, Cal., U.S.A.

R. E. BOARDMAN, A.F.I.A., A.A.I.S.,
Managing Director and Editor.

E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. SHOO-BRIDGE, M.L.C.

NOTES IN BRIEF.

In view of the heavy crops generally expected, growers are recommended not to neglect thinning in order to secure quality. (See Tasmanian Notes.)

A review of the prospects for the coming export season, and the need for attention to an attractive "get-up" are published in this issue.

Crop prospects in Australia and overseas are reviewed by Mr. P. H. Thomas in our Tasmanian section.

Harvesting of berry fruits and a review of new berry varieties are dealt with in this issue.

A proposal to forward Goulburn Valley early Peaches to Sydney in refrigerated trucks for sale as fresh fruit is outlined in the Canning Fruits section.

Plant quarantine stations are to be established in tropical and temperate areas, stated the Commonwealth Director of Plant Quarantine at the Interstate Plant Pathologists' Conference recently.

"It is not enough that goods are made, a demand for them must also be made."—Calvin Coolidge.

Export of Apples Overseas.

Why Should Australian Growers Hide Their Apples Under a Bushel?

(By H. G. Colombie.)

A VERY OLD FRENCH PROVERB, founded on experience, rightly says that "one only learns at one's own expense." Keen observers use this truism, and heed the moral, by putting to profit not only their own past experience, but the experience of others.

Let us see how Australian growers can benefit from retrospection and reflection.

The export of Apples can be subdivided as follows:—The container; grading, packing, etc.; carriage overseas; marketing overseas.

I have purposely headed the list with the "Container," because I fear growers do not devote to their cases, and to the presentation of their fruit, all the attention they deserve.

The container serves a dual purpose, i.e.:—

- (1) To carry the fruit; and,
- (2) To present the fruit to the buyer.

Container.—To carry the fruit properly the case must be properly constructed, but this is so self-evident that little need be said about it. It is when we deal with the appearance of the case, and with the presentation of its contents, that growers are frequently at fault. I have repeatedly seen on this side, before shipment, cases whose boards were badly stained, and no credit to the fruit they covered. On pointing out this defect to some of the growers concerned, I have asked them to turn themselves into buyers and consumers for the time being, and to tell me what impression was created in their mind for that particular line of fruit by the sight of such cases. Very often the stains referred to give the appearance that some of the fruit has become wastey, and that the juice has percolated through the wood. This immediately creates a suspicion in the buyers' mind, and even assuming that on examination of contents no waste is found, some buyers still fear that the case has been "repacked," and that it still contains a proportion of Apples on the border line, likely to waste rapidly. The consequence is, that such fruit misses a portion of the buying competition it would otherwise attract. After all, good prices are only the result of buying competition, and the greater the buying competition for a line of fruit the better for the grower.

Pine Cases.—Times out of number I have been asked, from all parts of Australia, for my views on this much-debated subject. From my knowledge of the trade I see no reason why growers should change from hardwood to pine cases if they wish to stick to the dump Australian case (always provided their hardwood boards are clean and properly seasoned).

On the other hand there is no doubt that overseas, the preference is for pine cases of Canadian standard, and personally I recommend these in preference to all others. The cubic contents are the same as for the dump case. They are much lighter; they are easier to pack, and pack better. They do not warp; and by reason of their construction the boards "give" to the fruit, with the consequence that the proportion of bruised fruit, especially for large sizes, is not as great as when packed in hardwood cases. They are also more uniform in contents.

My recommendation is, however, confined to the Canadian standard case. A container, I believe made in Australia, was recently submitted for my inspection, but although made of pine, and conforming to the Canadian shape and size, it materially differed in certain essential features. I see no reason, however, why the proper case of Canadian standard should not be made in Australia.

Wiring.—This is to be recommended in all cases, especially for fruit sent to the Continent. Growers must remember that after discharge, much of the fruit has to be lorried from dock to railhead or steamer, where it has to be rehandled; that frequently it travels long distances; that sometimes it has to be rehandled at a junction, and finally that it has to be rehandled at destination. The

purchase of a line of fruit is, therefore, at times, limited by buyers to such containers as will meet their requirements. Moreover, wiring is a protection to growers as it reduces breakages, pilferage, etc., and from figures I have seen it is plain that losses sustained by growers between time of shipment and port of arrival, would be more than compensated by the cost of wiring.

I particularly recommend that pine cases be wired at each end.

Weight of Container.—This is another factor deserving attention. As already stated, much of the fruit travels long distances, and in such instances the weight of the container is a consideration. Recently I mentioned this matter to an orchardist, who, when his contradiction was put to the test, found to his surprise that his hardwood cases varied in weight from 14 to 16 lbs., which is far too heavy.

Labelling of Cases.—An additional reason why I prefer the Canadian standard pine case, is that its planed ends readily lend themselves to the display of attractive labels, which are a good asset, and greatly preferable to the present stencilling, which is not only frequently confusing, but even at times illegible. I have been told that labels have been tried before, and that they were not a success. The labels may have been affixed to unplanned hardwood ends, and this may have accounted for the failure; at any rate I am not convinced it is not practicable here. Labelling has been carried out regularly on cases sent in refrigeration from West America and New Zealand to overseas markets, and I fail to see why Australians cannot do what others are doing.

New Zealand.—The latest newcomer, and ever-increasing competitor to Australian Apples overseas, is the Sister Dominion. It will be acknowledged that New Zealand is more than holding its own against Australia, which has had much longer and greater experience in the export of Apples. New Zealand Apples are well graded, packed, etc., but to my mind not a little of their success is due to the particular care and attention given to the appearance and attractive presentation of their product. They have copied America (not Australia), and have adopted:—

- (1) The Canadian standard pine case;
- (2) Labelling the cases at each end with a neat and attractive label advertising New Zealand Apples; and
- (3) By further adopting the use of printed wrappers, which serve to advertise New Zealand Apples.

They also follow the American box Apple method of packing to "counts" instead of to "size."

Printed Wrapper.—This, I think, deserves attention, as will be gathered from the following:—

"Eat More Fruit" Advertising Campaign in U.K.—Most growers are aware that a very comprehensive campaign, initiated in England in 1923 has now become almost European wide. It is probable that the yearly expenditure now approximates £100,000, and recently it was officially stated that this campaign had resulted in an increase in prices to fruitgrowers of approximately £2,000,000 in the last 12 months. Australian growers must understand that the advertising covered by this campaign is of a "general" nature, that is to say that the public, through the press, pictorial posters, retailers' propaganda, etc., is exhorted to "Eat More Apples," "Oranges," "Grapes," etc., but that no special country of origin is specified.

Apart from this general campaign there are other special advertising campaigns, such as those conducted by Australia and New Zealand to advertise their own fruit when in season.

"Eat Empire Fruit."—In a way, supplementing the above, the Empire Marketing Board is "doing its bit" by exhorting the British public not only to "Eat More Fruit," but to "do it imperially."

It has been proved conclusively that advertising has

greatly increased the consumption of fruit in Great Britain, and, therefore that advertising pays. The Marketing Board now adds its voice by inciting the British public to give its preference to fruit grown in the Empire. There is no doubt that given equally good quality, etc., the British public will respond, but we are faced with this question: "How can the British public know and recognise that it is actually getting Australian fruit when it asks for it?"

There is no doubt that the public can readily identify New Zealand Apples, firstly by the case, because of the labels, and secondly by the printed wrapper proclaiming to the world the country of origin.

It would seem, therefore, that the obvious way for Australian growers to complete the chain of advertising, is to adopt the same method whereby the fruit would advertise itself by crying aloud to all, "I am Australian, and as I am very good, ask for me again, and none other."

Instead of that, let us see what actually happens.

(1) If a case of Apples from America, Canada or New Zealand were delivered at a shop, the case itself, as it is usually clean looking, might remain in the shop with the fruit left in and exposed, the lid being removed. The exposed labels on the case would proclaim to all the origin of the fruit and the printed wrappers around the Apples (a few of which might be removed to show off the fruit) would again proclaim to all the origin of the fruit.

(2) If, instead, a case of Australian Apples were delivered at a shop, the container might or might not be kept in the shop. Most probably, if the case were unsightly, the fruit would be emptied, all traces of origin would disappear, and Australia would miss an invaluable means of advertising.

At the best and, if perchance, the case were kept in the shop, the Australian container does not proclaim so loudly that it comes from this sunny land, and its appeal is certainly nothing like so inviting as in the case of the

container from Canada, America and New Zealand. At any rate, being a dump case, if a board be removed, the fruit is not displayed to such good advantage as would be the case with a Canadian standard container. Moreover, the Apples cannot speak because the wrappers are "dumb," merely returning a "blank" look to the onlooker.

Why "Hide your Apples under a bushel"?

U.K. Consumption of Apples.—The following figures, which only relate to U.K., may interest growers:—

The total supply of Apples from all sources in U.K., has gone up from 5½ million cwt. in 1908, to more than 12 million cwt. in 1925, the consumption having increased from 16 lbs. to 31 lbs. per head.

Of the imports in U.K. during April, and part of May, 1927, America had a long lead, viz.:—

April—First week	80	per cent. of total imports
" Second week	70	" " "
" Third week	63	" " "
" Fourth week	52	" " "
May—First week	65	" " "
" Second week	40	" " "

These figures only relate to imports, but the marketed proportions are greater owing to the release of cool stored American Apples. It will be seen that even in their own season Australian Apples only occupy a minor position.

If Australian growers give the British public the means of readily identifying their Apples, they can only benefit and probably cause a reduction in the preceding figures.

To sum up:—Of all the countries exporting box Apples overseas, Australia alone:

- (1) Uses Hardwood cases.
- (2) Uses dump cases.
- (3) Does not use labels on cases.
- (4) Does not use printed wrappers.
- (5) Uses "sizes" instead of "counts."

I am reminded of the proud mother who, when seeing the battalion march past, exclaimed to her husband that "they were all out of step except our John."

Fruit Marketing in Chicago.

Lessons for Australia.

(By R. E. Boardman, Editor of the "Fruit World.")

Chicago, 1/9/27.

ONCE AGAIN I have had the opportunity of seeing the benefits of organisation among fruitgrowers. Right here in the third largest city of the world, I have inspected the system of marketing fruit, visiting the auction rooms, the wholesale markets, and witnessing the whole process of distribution.

Broadly speaking, there are two systems in operation: (1) auction; (2) private treaty. The first deals with the produce of organised growers received in car-load lots from a distance, say, Oranges, Pears and Grapes from California, and Apples and pears from Oregon and Washington.

The fruit is bought by (a) wholesale distributors in large lots for selling to retailers; (b) by retailers who can buy the minimum quantities offered (25 cases of any line); (c) by "peddlars" or men who buy minimum quantities or the odd lots for sale from their trucks or carts.

There are several wholesale markets in this city of three million people. The main centre is known as the new "Water Street Market," clean, new buildings of concrete and steel constructed specially for market purposes, and owned by a private company, the shareholders being the stallholders themselves. At the Water Street and other markets fruit is received direct from growers' wagons or on consignment from growers in the State of Illinois and elsewhere.

(These notes are written in the train journeying from Chicago to Detroit, and I pause to mention that a train official has just come along with a basket, offering the passengers a nice range of fruit. It is a hot day, and fruit is appreciated.)

To resume: I was pleased to notice the quality of the fruit offered for auction. There were long lines of stand-

ard grades from two powerful organisations. The California Fruitgrowers' Exchange (Citrus) and the California Fruit Exchange (Deciduous). The auction building is owned by the railroad company, and is ideally situated for quick delivery and despatch. Through the representatives of the growers on the spot, the auction market is supplied with the quantity of fruit which it is thought can be profitably absorbed. A steady, even price is the ideal, not high and low extremes. The fruit is placed on the floors, catalogued, and the buyers go round inspecting and making notes of the lines they want, and marking their catalogues accordingly, so as to be ready to bid when these are offered.

The buyers are familiar not only with the general over-riding brands of "Sunkist" Oranges from the California Fruitgrowers Exchange, the "Pure Gold" brand of the Mutual Orange Distributors, or the "Blue Anchor" brand of deciduous fruits from the California Fruit Exchange, but also with the individual districts in which the fruit was grown. Some districts are known to produce fruit of longer keeping capacity than others, and such is always at a premium.

At the sound of the gong the buyers hurry off to the auction room, the auctioneer takes his stand on the rostrum, and the bidding commences. It is an animated scene. Just before the sales commenced, one of the buyers said to me, "Now you'll see the wild Indians."

The market was firm, the large-sized Oranges bringing from 14/- to 17/- a case, Pears 12/- to 14/- a case, etc. Buyers operated with confidence because of the reliability of the packs, and the fact that the market supplies were organised.

I chatted with the buyers before and after the sale. Their knowledge of the various packs was almost un-

canny. I asked the auctioneer's assistant, who piloted me, what the fruit was likely to bring. He directed attention to the good points and the bad points of the packs offering. This one slack, that one full and firm. His anticipations were fulfilled. "Good quality, well packed fruit sells itself," he said. "We never have too much good fruit. It is the lower grades which take selling."

He then went on to speak of the "Sunkist" Oranges, and the success of the growers' continuous advertising campaign. By reaching the housewife direct through advertising, she asked the retailer for "Sunkist" Oranges, and insisted on having them, so the retailer had to buy them to fulfil the public demand. So clever is this advertising that people have come to link the word "Sunkist" with Oranges; some even believe it is a special variety!

There is an interesting similarity between the conditions which existed recently in Chicago and those of to-day in Sydney and Melbourne.

It was found that the wholesale fruit market in old Water-street in Chicago was overcrowded, and inadequate for the ever-growing needs. To meet the obvious need the merchants selected a suitable position a mile or so away, bought the land, demolished the houses, and erected

the most up-to-date market I have so far seen. It will be a pleasure to describe this market in detail later. At the request of the fruit trade the new area was renamed by the City Council the "Water Street Market." The stallholders do not simply "rent" their stands from the company—their rent is part of their purchase money, and over a period of 16 years they will own sites they occupy.

The result has been a marked improvement—better transport facilities, more sanitary conditions. Under the old crowded conditions the producers were not getting good service; now they get better prices and the public pays less for the fruit because of the cutting out of needless and wasteful expenses.

Sydney and Melbourne are both facing the need for new wholesale markets. It would pay the City Council authorities, the growers, and the merchants to send representatives over to study the successful methods which have been adopted in Chicago, i.e., intensive study and the examining of minute and technical details.

All concerned, and primarily the producers, would benefit by better marketing facilities being established in the two main Australian markets—Sydney and Melbourne.

The Codling Moth.

Orchard Practice in the Control of Pests.

(By W. H. Davey, Chief Orchard Supervisor, Victoria.)

(The following article on control of the codling moth, is an extract from an article by Mr. Davey, published in the "Victorian Journal of Agriculture.")

As showing how little is yet known for certain as to the life history of the codling moth, a little experiment carried out by the writer is of interest at the present time.

On December 30 last year, a bandage containing codling larvae was removed from a tree and placed in a glass jar for observation purposes. During January seven codling moths emerged, and by the end of February five more moths had escaped from their pupa cases. Early last March six more moths had emerged, making a total of 18 from the one bandage.

Any person capturing these moths in the orchard might easily believe that they had matured from caterpillars developing at different times of the year, and were not of the same brood. He, in all probability, would not expect to find that all these moths came from caterpillars that had left the fruit when fully fed during last December, and then entered the bandage in which I found them.

But a still more interesting fact is that there still remain in the jar some of the caterpillars not yet pupated. These have spun cocoons on the glass, between it and the bandage, so are easily observed. As these larvae appear plump and vigorous (not having yet pupated) they probably will emerge as moths this spring. (Since this article was written two moths have emerged. They were observed on October 25.) Should these moths have been captured in the orchard

they would have been regarded as first-brood moths from caterpillars that developed last autumn, and it would be hard to convince most people that they came from caterpillars that had developed during the spring of 1926.

This delayed metamorphosis of insects, although well known to entomologists, certainly makes it more difficult to know exactly how many generations of codling moths there are in any one year. It also makes spraying for codling a more difficult problem than it is generally thought to be, owing to the intermittent nature of the times of emergence of the perfect insects. In this case a succession of moths from the one bandage was spread over three months, and yet some of the caterpillars still remain unpupated; these probably will emerge as moths this season.

For assisting in the control of codling, clean culture is of first importance. This, together with keeping the fruit well sprayed with arsenate of lead, will keep the pest within bounds to a degree otherwise unobtainable.

The Orchard Supervision Branch last season carried out some tests with lures for trapping the moths. The lures consisted mostly of cider and water, or just Apple juice and water. Numbers were captured by these means, but, unfortunately, it was not determined whether the moths were caught previous to having laid their eggs or afterwards.

The chief objection to the use of lures is in the numbers of useful insects that are caught and drowned. Bandaging the trees, if carefully car-

ried out, will give big catches of codling caterpillars, but if not carefully done, more harm than good may result, and it should not be overlooked that caterpillars taken in bandages have eaten all the fruit they required before entering the bandages. Therefore it is a much sounder orchard practice to kill the caterpillars by means of the spray pump before they can eat their way into the fruit, than to trap them after they have eaten their way out.

The most effectual spray against codling is arsenate of lead, used at the rate of 5 lb. to 80 gallons of water. If the powdered form is used, then 2½ lb. is sufficient for 80 gallons of water. The first spray should be applied about a week after the petals have fallen, and thereafter at intervals of three weeks, the last spray being made about three weeks before harvesting the fruit.

Although little is known of the life history of the codling moth, as to the number of broods, or the times of emergence due to delayed metamorphosis already alluded to, we do know that the moths lay their eggs on both fruit and leaves, at intervals of time, and that the caterpillars, on hatching, feed for some time on the thread-like processes on the calyx of newly-formed Apples. The first hatchings usually enter the fruit at this point, probably on account of the shelter afforded by the sepals forming the calyx. The later broods enter the fruit at any part, but usually where cover is given them, by fruits touching each other, or by leaves, etc.

A Scotsman stood a Yorkshireman a drink and waited a very long time for the return.

The latter's pipe went out, and he drew a match slowly from his pocket and eyed the damp table morosely.

"There's not a single dry spot to strike my match on," he grumbled.

"Is there no," put in the Scot, quickly, "whit aboot tryin' ma tongue?"

New South Wales

The Irrigation Areas. ∴ District News and Notes

CURLWAA IRRIGATION AREA.

During the early part of the quarter ended September 30 last, all trees and vines on the Curlwaa Irrigation Area gave promise of an excellent crop, but during September the settlement experienced a very severe frost, probably the most serious in recent years, and in some instances considerable damage resulted. It appears that the vines were affected more than the trees, but in some cases dormant buds have since burst satisfactorily, so that it is hoped that some crop will result in these cases. The Citrus crop was damaged only in isolated cases, and it is not possible at this stage to state what amount of damage has been done to Peaches and Nectarines. Various estimates of losses have been published, but the actual position, it is thought, is not as serious as originally indicated.

SYDNEY:

Fruit Merchants

S. & M. Greenberg

No. 1 Store

Fruit Markets, Sydney

Also at Melbourne Markets

Tasmanian Shipping No. 161.

Victorian Shipping No. 42.

PROMPT RETURNS

Representatives of the Water Conservation and Irrigation Commission recently conferred with settlers whose holdings are situated within that part of the Area that comes within the Municipality of Wentworth, and is subject to municipal rating. It is expected that a proposal submitted at the Conference will be given effect to, and that the rating will eventually be lifted. The lands within this area which have been available for some time have not been taken up, owing no doubt to the municipal rating as at present attached, but with the lifting of the rating, it is thought that the land, which is of good class soil and suitable for horticulture, will attract settlers.

Good progress has been made dur-

ing the quarter in the construction of the bridge over the Murray River on the south-eastern end of the settlement. The completion of this bridge will afford improved access to marketing centres.

The first irrigation for the 1927-28 season commenced on August 8, and covered a period of 19 days, during which over 1,600 acres were irrigated.

COOMEALLA IRRIGATION AREA.

The Minister for Agriculture, who is also Chairman of the Water Conservation and Irrigation Commission, referring to the satisfactory progress made during the three months ended 30th September, 1927, on the Coomealla Irrigation Area, states that on the 30th September there were 89 occupied holdings, comprising an area of 1,489 acres, of which 1,311 acres are irrigable. More than 1,000 acres have been cleared, and over 900 acres ploughed, and approximately 500 acres of the ploughed land had been planted with sultanas and citrus prior to September, and further plantings were made during that month. The first irrigation for the 1927-1928 season commenced on the 30th August, and continued for 30 days, during which time 1,000 acres were watered.

A temporary school has been established and tenders have been invited for the erection of a permanent building.

The bridge over the River Murray at Mildura, which has recently been opened, will provide ready access to Mildura and the various packing sheds and distributing agencies in that centre.

CROP PROSPECTS AT KATOOMBA.

Notwithstanding the late frost, which diminished the stone fruits and Pears, there is a splendid crop of Apples of all descriptions in sight, particularly Five Crowns, Jonathans, Romes, Cleos., G. Smiths, etc.—One large orchard at Hartly Vale, in this district, expects to make application for storage of 20,000 cases.

The present prospects for fruits set are:—Apples, good to large crop; Pears, medium to light; Peaches, medium to good; Plums, light to failure (late frost); Cherries, medium to good early sorts, late kinds a failure; Quinces, light to failure; Gooseberries a good crop; Currants, good; other berries, good.—Chas. Wooller, Oliva Farm, Katoomba, N.S.W., 15/11/27.

MAIZE MOTH ATTACKING APRICOTS.

Mr. G. W. Beverley, senior Fruit Instructor on the M.I.A., has been in consultation with Mr. Gurney, N.S.W. State Entomologist with regard to small grubs which have been discovered infesting Apricot, and more particularly Prune trees on the area. Mr. Gurney advises growers that the grubs are the larvae of Maize moth, and settlers whose trees are affected are advised to spray immediately with arsenate of lead at a strength of two pounds to 50 gallons.

The caterpillar is very minute, and the trees require careful examination to discover the presence of the pest. There are a number of split fruit this season, and the pest will be found boring into crevices in the fruit in many cases. Mr. Beverley reports that the infestation is fairly general throughout the area.

Treatment.

Spraying with arsenate of lead before the fruit approaches ripeness is an effective control.

**Carlton
Arsenate
of Lead**

AGENTS WANTED

Walter Voss & Co. Ltd
Millwall, London, E.14 England

PERSONAL

Mr. W. J. Kimber, Secretary of the South Australian Fruit Growers' and Market Gardeners' Association, passed through Melbourne early in November on his way to the Great Barrier Reef. Mr. Kimber is a member of the Field Naturalists' excursion, which is spending six weeks on the coral islands, studying marine and bird life, and was looking forward to a welcome respite from the worries of fruitgrowing.

New Zealand crop reports promise generally heavy yields of Apples, with average to good crops of Pears. Most other fruits promise well, and the orchards are clean and in good condition.



Dried Fruit Department

UNIFORM DIPPING OF SULTANAS.

Resolutions by Interstate Conference.

At the fifth Annual Interstate Conference of the Australian Dried Fruits Association early in November, a report was presented by the special committee appointed by the conference to consider the question of a uniform method of dipping dried fruit.

The report was exhaustively discussed, and subsequently the committee's recommendations were unanimously adopted. These stated that reports from all countries in which Australian Sultanas were marketed emphasised the necessity for greater uniformity and the severe curtailment of a number of types of Sultanas. This state of affairs was a strong factor against a successful marketing policy, and it was believed to have been brought about by a wide variation in the growers' methods of processing. The growers, therefore, were recommended not to make any further experiments in dipping, but to leave all experimental work in the hands of scientific institutions, which will welcome suggestions by the growers.

The report further stated that experimental work had now reached a stage that warranted definite instructions on processing methods, and the conference recommends that dipping be limited to three methods, viz.: (1) Modified caustic dip; (2), boiling caustic dip; (3) cold dip. Owing to the numerous complaints of greenish berries and variegated packs, cold dip should never be used except by growers able to produce a high and regular quality, or in special circumstances under the supervision of experts.

It was also recommended that modified hot caustic dip be used in preference to boiling dip, except in the case of late drying, wilting fruit or unfavorable seasonal or climatic conditions. It was urged that an advisory pamphlet be prepared by the Council of Scientific and Industrial Research, setting out a recognised standard

practice in regard to dipping, spraying, and drying by each method.

While appreciating the work already done by the Commonwealth, the conference submitted to the Minister the urgency of the case of the industry for further scientific investigation with a view to improvement in the process of dipping fruit, Sultanas particularly, and also instructional work.

There was considerable discussion on the control of the industry, and it was resolved that regulations be drawn up to bring about a more efficient system of control. Such regulations are already in force in Victoria, and it was the desire of the conference to bring the other States into line.

Recommendations for more effective inspection at packing sheds and tightening up the conditions under which inspectors were appointed were also adopted.

The conference decided to recommend to the Minister certain amendments in the export regulations with a view to an improvement in packing and marketing this season's crop.

It was decided to ask the Commonwealth authorities to approach the New Zealand Government, asking for preference for Australian dried fruits.

A description of a successful machine for blending Sultanas, invented by Mr. H. Showell, of Renmark (S.A.), and installed this year by the Renmark Co-operative Growers, was given by Mr. E. N. Seary, and a resolution was passed recommending packers to adopt a system of blending Sultanas of similar types in order to reduce the number of types of fruit forwarded to the market.

Interesting information gathered as the result of a visit to Canada on behalf of the Export Control Board was given by Mr. R. A. Haynes. In the course of three months spent in Canada, Mr. Haynes visited all the principal stores of the Dominion and thoroughly explored the possibilities of the market for Australian Currants, Sultanas, and Lexias. He found a very friendly feeling towards Australian fruit, of which 3,000 tons have been purchased this year. Con-

siderable opposition to the trade treaty with Australia had developed because of the small quantities of Australian fruit sent to Canada during the first two years of the treaty, but this had now been largely overcome, and, despite the great reduction in the prospective production of Currants this year through frost, every effort should be made to supply the Canadian requirements. Mr. Haynes strongly urged the use of stouter boxes for fruit for the Canadian market.

DIPPING APRICOTS FOR DRYING.

A test of several dipping solutions for the treatment of whole Apricots prior to drying was carried out by the Department of Agriculture at Yanco, N.S.W., Experiment Farm last season, the variety used being Lossie Blenheim.

Three lots of fruit were treated as follows:—(1) Dipped for five seconds in caustic soda solution, 1 lb. to 30 gallons of boiling water; (2) dipped for five seconds in caustic soda solution, 2 lb. to 30 gallons of boiling water; and (3) dipped for three seconds in caustic soda solution, 2 lb. to 30 gallons of boiling water.

Each lot was then sulphured and all were placed on the rack (on trays) on December 23, 1926; they were dry on January 4, 1927.

The best result was obtained from No. 1 treatment, nice bright Apricots being produced; No. 2 treatment gave a nice color, but not as good as No. 1, while No. 3 treatment gave fruit that was dull and rather dark colored, and not nearly as good as Nos. 1 and 2.

CALIFORNIA PRUNE INDUSTRY.

California Prune growers have asked the Bureau of Agricultural Economics of U.S. Department of Agriculture, to make a statistical survey of the Prune industry of that State, its production, marketing and distribution. The Prune industry is in a somewhat depressed state at the present time.

AUSTRALIAN DRIED FRUITS IN LONDON.

In a report on Australian dried fruits in London, presented at a meeting of the Council of the A.D.F.A. on November 10, by Mr. E. G. Roberts, who recently investigated market conditions, it was stated that there were several directions in which the sale of dried fruits might be increased in Great Britain. Currant vines should be pruned to produce a bold, black berry, and Sultana growers should aim at a fruit of a bright golden color and even sample. It was necessary that packers should avoid sending small lots, which did not interest buyers who desired "long" lines.

AN EMPIRE CHRISTMAS PUDDING.

The King's chef, Mr. Cedard, with Their Majesties' gracious consent, has supplied to the Empire Marketing Board the following recipe for an Empire Christmas pudding. The recipe is being used in the campaign to popularise Empire products:—

5lb. of Currants	Australia
5lb. of Sultanas	Australia
5lb. of Stoned Raisins	South Africa
1½lb. of Minced Apple	Canada
5lb. of Bread Crumbs	U. Kingdom
5lb. of Beef Suet	New Zealand
2lb. of Cut Candied Peel	S. Africa
2½lb. of Flour	United Kingdom
2½lb. of Demerara Sugar	W. Indies
20 Eggs	Irish Free State
2oz. Ground Cinnamon	Ceylon
1½oz. Ground Cloves	Zanzibar
1½oz. Ground Nutmegs	
1 Teaspoonful Pudding Spice	Straits Settlements
1 Gill Brandy	India
2 Gills Rum	Cyprus
2 Quarts Old Beer	Jamaica
	England

AMERICAN GRAPE PRODUCTION, 1927.

The Grape crop of the United States this year is approximately 20 per cent. larger than the average production of the last five years, according to an announcement recently made by the Department of Agriculture.

How to dispose profitably of the large production of Grapes before December is the problem, it is said, confronting Grape growers and shippers, particularly those in California, where 90 per cent. of the crop is produced. Recent seasonal shipments of fresh Grapes have amounted to 75,000 or 80,000 cars. In addition, many thousands of tons must be disposed of locally by drying or other manufacturing process.

This season's total Grape crop of some 2,500,000 tons probably will be at least 8 per cent. heavier than last year's large crop, and about 20 per cent. above the average production of the last five years. Eastern Grapes may be a relatively short crop, compared with 1926, but the Californian production has been increasing each season. Growers are renewing their co-operative efforts in the handling of this important product.

ORCHARDISTS!

TO OBTAIN THE BEST RESULTS

Use the Right Spray
at the Right Time

"YARRA" BRAND SPRAYS

are the cheapest, most effective and
— economical on the market —
We manufacture a complete range
— of Sprays for the Orchardist —
including Arsenate of Lead (paste
and powder), Lime Sulphur, Red
Spraying Oil, Copper Soda Mixture,
Benzole Emulsion, Spray Spreader
etc., etc., etc.

Prices and particulars on application to

PARSONS & JAKES

Manufacturing Chemists

6 Patterson Street

155 Yarra Street

Abbotsford, Vic.

T. STOTT & SONS

Fruit Merchants

Established 1882

A Trial Consignment solicited from Growers in all States.

Prompt Settlement.

**11 WESTERN MARKET,
Melbourne**

AUSTRALIAN FRUITS.

Good Display at Toronto.

Reports from Toronto on September 9, state that the Australian dried and canned fruit exhibits at the National Exhibition attracted most favorable comment, and they were regarded as superior to anything in their class.

Mr. Dowrick, an official of the Victorian State Rivers and Water Supply Commission, said that he was highly pleased with the result of Australia's opening display, especially as the dried fruit exhibit created considerable surprise, and had been so well

commented upon by both Canadians and Americans. He said that it was hard even now to convince some Canadians that the Sultana was a golden, seedless Raisin. The Toronto Exhibition was fast becoming one of the marketing centres of the world.

It was estimated that considerably more than 1,000,000 people had viewed the Australian exhibit.

EXPORT APPLE COMPETITION.

IN ORDER to encourage fruit-growers to adopt the improvements suggested from time to time in regard to the presentation of Australian Apples overseas, Mr. H. G. Colombie, Temple Court, Melbourne, in association with the various overseas firms he represents, has decided to present a cup to the Apple grower whose exported fruit will, at the end of the season, average the highest number of points.

The judging, which will be supervised by the Superintendent of Horticulture (Mr. J. M. Ward) will take place at the ship's side when the fruit is examined for export by the fruit inspectors, and records of each inspection will be kept, averages being drawn at the end of the season.

The maximum points to be awarded will be divided, 50 per cent. for appearance of case and presentation of the fruit, and 50 per cent. for wrapping, grading, quality and color of the fruit. These will be subdivided thus:—

External appearance of case, 25 points, comprising timber and labelling or stencilling, 10 points each; wiring, 5.

Internal presentation of fruit, 25 points.—Wrappers, if printed, 10 points, if plain, 5 points; correct height, alignment and compactness, 5 points each; wrapping, 10 points; grading, 20 points—uniformity of size and uniformity of color, 10 points each; quality and freedom from blemish, 20 points. Total, 100.

In addition to a handsome cup, to be held for 12 months by the grower securing the highest number of points during the shipping season, and a small replica of the cup, to become the absolute property of the yearly winner, cash prizes will be awarded as follows:—First, £15/15/-; second, £10/10/-; third, £5/5/-.

No fee is charged, and all Victorian Apples exported, and however shipped, whether sold outright or exported on consignment, will participate in the competition. All that is required is that Victorian growers pay special attention to the grading and packing of their fruit, and the appearance of their cases.

Western Australia

Fruit Crop Reports and Prospects :: Districts Notes
Orchard Work

THRIPS IN WESTERN AUSTRALIA.

Serious Damage to Apple Crops.

LAST YEAR, when the Eastern States Apple crops were practically wiped out by the ravages of Thrip, Western Australia was free. This season the Western State is having her turn, and the Superintendent of Horticulture (Mr. G. W. Wickens) said early in November that the fruit inspector reported from the Mt. Barker district that Thrip was present almost in plague form. No doubt Thrip caused some damage to the crop, but it was noteworthy that in other districts when Thrip was not present in unusual numbers, the crop was also light. Reports to hand from the inspectors in all districts showed that the Apple crop would be light. No reliable estimate of the crop could be given, until about the middle of December. The abnormally heavy crop of last season no doubt had had some effect upon the capacity of the trees to produce another heavy crop this season.

Other reports from the south-west stated that orchards were badly affected, and one man stated that in one week he had seen a potential £6,000 dropped from his trees.

Two leading orchardists from Mt. Barker stated that the position in their district was very bad, and they did not anticipate more than a 10 per cent. crop. They were emphatic that Thrip and nothing else was the cause of the trouble. Throughout the district only a small percentage of the fruit had set. This was one of the heavy years, in which good crops were expected, and true to expectation, the trees had blossomed heavily. Then disappointment came with Thrip. Nearly every orchard in the district was affected to a greater or lesser extent.

The chief exception to the failure at Mt. Barker was an orchard about 700ft. above sea level.

Last season the Apple crop in Western Australia was abnormally heavy—901,464 bushels, of which 494,641 bushels were exported overseas and between 70,000 and 80,000 bushels were sent to the Eastern States.

LIGHT YIELD AT BRIDGETOWN.

Bridgetown, Nov. 8.

It is evident at this early date that the Apple export from this district

will only be about half that of the previous years' average. The great majority of orchardists state that they will have only about half the amount of the previous crop, and in a few cases one-third. On the other hand, a few of the orchards are showing a fairly heavy crop, but they are very few.

The cause of the failure is attributed chiefly to seasonal conditions and the heavy crops last year. The damp weather during the blossoming stage had, no doubt, a lot to do with light setting. Thrips, of course, played their part, but only in a small way, and many orchardists do not consider their loss in this direction as heavy. The blossoming was particularly heavy, but the fruit failed to set, and many of the Apples that did set are ill-shaped. This applies chiefly to export varieties. The late varieties are just a little heavier, particularly Granny Smiths.

SERIOUS POSITION AT MT. BARKER.

Mt. Barker, Nov. 8.

The position here regarding the fruit crop is viewed seriously by fruit-growers. The Apple crop this season is considered the lightest known in the Mt. Barker district. It is doubtful as yet if there will be any fruit for export to Europe from this district. Heavy cancellations of fruit cases have been made, and on large orchards hands are being dismissed. A few small orchards have a fair showing of fruit, but the big orchards and the majority of the others have been seriously affected. The damage is believed to be due to Thrip, which made its appearance in plague form early in October. The Denmark, King River and Torbay districts are also more or less affected.

FRUIT CROP PROSPECTS AT MOUNT BARKER, W.A.

The principal fruits grown in our district commercially, are as follows:—Apples: Jonathans, Dunn's, Cleos, Rokewoods, Yates, Granny Smith's. Pears: Winter Nelis, Josephine, Bosc, Comice... It is difficult to state the general crop anticipation, as last week we had a visitation of thrips. Fortunately, after two or three days we had heavy rain, which washed out a considerable quantity

of the pest. At present we think the crop will be light, but cannot say for certain for another week, or ten days. There is, however, no question of disaster, and we still continue to have good rains, which are no doubt saving the position. The total acreage under fruit in our district is approximately 3,000 acres, but we have no record as to the quantity produced last season. Our crop has been threatened by thrips as stated above, and we are having some little anxiety regarding Fusicladium, as, owing to the rains, it is difficult to spray, but at every fine break the growers are busy with this work, and we trust we shall overcome the trouble.—Archd. T. Booth, Mt. Barker, W.A., 17/10/27.

NOTES FROM BICKLEY, W.A.

The hills district in which I live is mainly devoted to Citrus, although practically all kinds of fruit are grown. It is early to state what crops for the ensuing year will be, but indications point to a heavy crop of Citrus; the same applies to Pears, Apples, and Stone Fruit. Last year the Citrus crop was medium in this district.

I can only give you an estimate of the acreage. Taking a two-mile radius, I should say there is about 500 acres under trees. Naturally we have our troubles, but these are not serious. The principal trouble with our Citrus is the disease commonly known as Brown Rot, which attacks fruit and leaves. The application of Bordeaux or Burgundy spray effectually controls this fungus disease.—P. C. R. Loaring, "Lawnbrook," Bickley, W.A., 19/10/27.

ORCHARD NOTES FOR DECEMBER.

(By G. W. Wickens, Superintendent of Horticulture, in the "Journal of Agriculture," W.A.)

Continue the war against fruit fly by foliage baiting and trapping and daily destruction of infested fruit.

Carefully examine Apples and Pears for traces of codlin moth, and notify the Department at once of anything suspicious. Should the pest appear, send a telegram; letters are too slow in a matter of urgency such as this.

Continue cultivation.

Marketing will form the major occupation of growers of stone fruits during this month. Grade to size and quality, making a name for straight dealing, and remember that an honest grower's name on the end of a case is worth shillings in the selling price on the market.

Harvesting of Berry Fruits.

(By J. M. Ward, Superintendent of Horticulture, Victoria.)

THE PICKING and marketing of berry fruits are not such simple matters as may appear. Practically each variety of these fruits requires somewhat different handling so far as picking is concerned; therefore, I shall attempt to furnish information on each kind.

Strawberries.

This fruit should always be picked early in the day, but should never be taken from a plant that is wet with dew or rain. The fruit should be pinched and not pulled from the plant. If the calyx and a short length of the stem remain on the berry, it will keep considerably longer in the fresh state. Where berries are handled in fairly large quantities, they must be picked a little on the under-ripe side, so that they will arrive at inland towns in prime condition. They should be well colored, however. Over-ripe berries, or even those just ripe, will not carry very far and remain in firm condition, and nothing will turn a consumer away from purchasing Strawberries so much as bruised and unattractive fruit.

For use close to the locality where grown, the berries can be allowed to remain on the plant for a day or two longer than would be the case if they were required for a more distant market. If left on the plant for this extra period, the fruit will be of better flavor and more highly colored, and of greater size.

The bed should be picked over regularly at least once in every two days. Daily picking is preferred, for then a much more uniform product is secured, and over-ripe berries eliminated. Growers should be careful in the grading or sizing of the fruit. Every endeavor should be made to have berries of fairly even size in each basket or punnet. Should the grower prefer to have mixed sizes in the one container, he should be honest, and not put the small ones in the bottom and the large on top. Such practices are unfortunately adopted by a few growers who, in doing this, are inviting trouble for themselves, as the law does not tolerate "topping" of any fruit. He is therefore liable to be prosecuted under the Regulations of the Fruit Act. Not only that, the practice is a dishonest one, and results in the consumer going without Strawberries rather than submitting to robbery, as he rightly terms it.

Perhaps at this stage it may be ad-

visable to remind growers and others of that portion of the Regulations governing the selling of fruit, which reads as follows:—

Fruit or vegetables contained in any package of any description or size, or comprised in any lot shall be so packed, stacked, or arranged that each external layer on the top, bottom, and sides of the fruit or vegetables shall be uniform in respect to grade, and shall be a true indication of—

- (a) The average grade, throughout, of the whole of the fruit or vegetables contained in such package or comprised in such lot.

This regulation is being strictly enforced, and it is no pleasure to departmental officers to have to prosecute sellers of fruit for the purpose of enforcing them to place an honest pack before consumers. It is much better for all concerned to have the fruit put up in an attractive manner, and thus invite the public to consume a greater quantity.

Properly graded and packed fruit pays well for the extra time and labor involved in the operation. A good slogan in this respect is:

"Proper Packing Pays."

Proper packing cannot be carried out if the fruit varies to any extent in size.

All Strawberries for home consumption, particularly if they are despatched over a railway journey, should be put up in 1 or 2 lb. baskets or punnets, then carefully packed in boxes or crates that hold some two dozen punnets. This, of course, is a common practice with most growers, but altogether too many Strawberries are marketed in buckets.

Raspberries and Loganberries.

These fruits are handled in a somewhat similar manner to Strawberries, but, in this instance, the fruit is separated from the stalk when picking.

Raspberries are ready to pick as soon as they separate readily from the receptacle or stalk. At that time they are not so easily bruised on picking and handling, and thus are not so subject to the attacks of fungi as when allowed to become fully ripe. These remarks, of course, apply principally to the fruit that is harvested for the fresh fruit market.

Both Raspberries and Loganberries should be picked into trays containing from four to eight punnets. These, when full, should be placed in a cool

and shady place. Like Strawberries, these fruits should be gathered during the early part of the day when the berries are cool. Not only are warm berries harder to cool, but the thin membranous covering is weaker and more easily broken in picking and handling, and thus will not carry well.

For jam-making purposes in the factories, the fruit should be delivered in such utensils as wooden or cardboard buckets. For the fresh fruit market, however, they should be handled in the same manner as was advised in the case of Strawberries.

Gooseberries.

This fruit is usually harvested while green, to be used for canning and making of preserves. Market prices are generally too low to justify the making of more than one picking, consequently the usual method is to pick the bushes clean when most of the berries have reached full size.

Currants.

Black and Red Currants for household use can be successfully marketed in half-cases. They should be gathered with the stalks on the fruit. A great mistake is often made by nailing the cases up when the fruit is warm. When this is done, the fruit will not keep—a state of affairs as unsatisfactory to the grower as to the consumer. The fruit should always be allowed to cool off before nailing up, and be kept in a cool place until it is placed on the railway trucks, or delivered to the consumer if carried in a motor truck. If picked for the jam factories, the fruit should be free from stalks, otherwise the grower will be charged for stalking.

COOL STORAGE OF BERRY FRUITS.

(By G. B. Tindale, B. Agr. Sc., in the Victorian "Journal of Agriculture.")

BERRY FRUITS are the most perishable of our fruits, and it is indeed on this account that they are not more extensively grown. Owing to their very limited life, and to their extreme susceptibility to mould attack, cool storage of them in the fresh state is quite futile. With the addition of sugar, however, they may be held for many months, and in the United States of America large quantities are so treated, and are disposed of throughout the year.

Experiments conducted at the Government Cool Stores last season demonstrated the value of such a process for storing Raspberries, Strawberries, Loganberries, and Black Currants for periods or many months.

The containers used were enamel buckets, although wooden casks or barrels would be equally suitable. The procedure adopted was to place a

layer of berries in the bottom of the container; this was then covered by a layer of sugar, and the process repeated until the container was filled.

The object was to mix the berries and sugar intimately, and equal weights of berries and sugar were used, although probably the amount of sugar used could have been slightly reduced, especially in the case of the Strawberries.

The berries were stored at 25 deg. F., a temperature at which the mixtures do not freeze. The possibility of mould attack is very remote, not only on account of the low temperature, but also owing to the presence of the sugar, the mixtures being too concentrated for mould growth to occur; thus the sugar acts as a preservative.

The Raspberries, Loganberries, and Strawberries, were treated in December, and the Black Currants in February. They are still in a perfectly sound and fresh condition, and on removal from store they keep in a wholesome condition for many weeks.

The mixtures are now like pulp, and are most suitable for kitchen use, while if the juice is extracted and added to iced soda water, it makes a wholesome pure fruit-juice drink.

The strawberries did not keep quite so well as the other berries, but this may be accounted for by the fact that they had somewhat deteriorated prior to being placed in storage.

The cost of storage is low, for berry fruits take up little space when compared with equal weights of other fruits. The first cost of the containers would be rather heavy, but these could be used from season to season.

If such a method of storage were adopted here, it should be possible for the berry-growers to arrange for a continuous supply of fresh berries to restaurants, soda fountains, etc. There is little doubt that there would be a demand for them, particularly as they would be ready for immediate use without further preparation.

NEW VARIETIES OF BERRY FRUITS.

As the Berry fruit crop is a very important one to many fruit-growers, it should interest them to know that several new varieties have been tested during the last three or four years at the Lalla orchard, near Launceston, Tasmania.

These varieties were selected while the owner (Mr. F. Walker) was in England a few years ago.

Raspberries.

During the year 1922 an exhaustive test of practically every known Raspberry was being made at the R.H.S. Gardens, Wisley, England, and these

tests were visited on two occasions, and the Director of the Fruit Division gave considerable time to showing Mr. Walker over the various tests. The results were carefully tabulated, and those varieties showing the best results gained the highest number of points. These were in the following order, and there was very little to choose between these three varieties:—Lloyd George, Pynes Royal, and Abundance. A supply of these varieties was purchased, and has been established at Lalla, where many thousands of canes of each can now be seen. They are all very promising, indeed, and quite up to the English descriptions, which are appended,

SWANN & Co.

Established 1822.

A century's experience in handling
FRUIT OF ALL DESCRIPTIONS

All Consignments for U.K. will have
Personal Supervision and Attention
Account Sales and Cheques despatched immediately after sale.

**3 SALTER'S HALL COURT,
LONDON, E.C., England**

Cables:—FIREBRICKS, LONDON
Bankers:—Bank of England.

Australian Representative
Chas. E. Howship, 129 Queen-st.,
Melbourne, and Surrey Chambers,
Perth, W.A.

Victorian Agent: H. M. Wade &
Co., 471 Flinders Lane, Melb.

SINCARE
CARBONISED
SULPHUR
Spraying Mixture.

THE MOST EFFECTIVE
NON POISONOUS FUNGICIDE AND
INSECTICIDE YET DISCOVERED
DOES NOT BURN.

Manufactured by
SINCLARE & COY
BOX 3, KING ST. RO.-SYDNEY.
(Works, Alexandria)

and Berry growers interested are invited to inspect these during the last week in December and the first ten days in January. After seeing these in England and at Lalla Mr. Walker is confident that they are a great improvement upon the kinds growers are now cultivating.

"Lloyd George"—A large, free-cropping variety, tall grower, and a variety that crops on the young growths and laterals, making it quite a perpetual fruiter as well as a summer cropper. Fruit conically oval, bright red, and juicy. Extra fine.

"Pynes Royal".—Very fine flavour and large berry. This is one of the best new Raspberries, vigorous growth, heavy bearer."

"Abundance."—The richest flavoured Raspberry in cultivation. This is a seedling raised in the Lincolnshire fruit-growing district, where it is largely planted. The cane is a very strong grower, and an enormous cropper, much esteemed. Highly recommended.

Strawberries.

These also engaged Mr. Walker's attention both in England, France, and California, and he selected what he considered the best for Tasmania in each country, and brought out 20 varieties, many of which proved quite unsuited to our climate and soil conditions, and have been discarded. There are four varieties that are being propagated, as they show great promise, and produce very heavy crops of firm, fine flavoured fruit; one especially is expected to prove an ideal variety for canning purposes.

Black Currant.

A new variety was being introduced in 1922, which Mr. Walker decided to introduce, called "Daniel's Late Black," which, as its name implies, is a very late variety, fully one month later than the sorts generally grown.

It is a very large berry produced freely all along the growths in large bunches. The bush is a very fine grower, and is doing remarkably well. The description given is that of the raisers.

"Daniel's Late September."—The bunches are exceptionally large, with fruit as large as Sloes, deep black, strong grower, with branches densely laden with large bunches of uniform fruit of prime quality. Being fully a month later than most varieties, it will greatly extend the season for this popular fruit."

Growers interested should endeavor to see the above, growing and while fruiting.

DUTY ON CRUDE OIL.

The Metropolitan Fruitgrowers' Association (Victoria), has been very active in endeavoring to secure a reduction of duty on imports of crude oil, but it is understood that there is no likelihood of any remission of duty. A certain amount of crude oil is manufactured in Australia, and the Government is desirous of protecting this industry.

During his visit to the Murray Valley in October, the Secretary of State for the Dominions (Mr. L. C. S. Amery) opened the new bridge over the Murray at Mildura.

South Australia.

Crop Prospects - Growers' Reports - District Notes.

FRUIT CROP PROSPECTS IN SOUTH AUSTRALIA.

The following crop reports for various districts have been forwarded by Mr. W. J. Kimber, secretary of the S.A. Fruitgrowers' and Market Gardeners' Association, dated 17/10/27:—

Murray Settlements: Berri, Glossop, Monash, Winkie.

Sultanas: 80 per cent. of crop destroyed by frost; a very small crop may be borne by other buds just bursting.

Currants: Gordos and Doradillos.—Some burnt very badly; fresh shoots are coming which may bear, but in any case crop will be very light.

Apricots.—Had there been no frost the crop would have been light. Very few Royals; Moorpark badly affected, so that not more than a very light yield can be expected.

Peaches.—In back areas the fruit is practically ruined, but in sheltered parts there is a good crop showing, mostly Elbertas.

Nectarines.—Not a large area planted, but a good crop is showing.

Citrus.—Frost too early to do much damage except in a few places, but most trees are blooming freely.

Pears.—Trees blooming freely.

Almonds.—Only light crop expected, as frost burnt young fruit.

Plums.—Showing good crop.

COROMANDEL VALLEY.

Jap. Plums.—Very good. **Apricots** light; **Peaches** light.

Apples.—Early varieties good. Cleopatra especially good. Later varieties flowered well, but continued hot weather is having bad effect. Orchard cultivation difficult, and rain much needed.

Pears.—Some varieties good, others light.—(Mr. G. W. Summers).

SUMMERTOWN.

Cherries have set well; indications of a heavy crop.

Apples.—Most varieties looking well, but in some orchards Jonathans and London Pippins are light.

Pears.—Very good crop so far.

Plums.—Generally good.

Gooseberries.—Good crop.

Raspberries.—Rather too early to tell, but canes look well.—Mr. F. C. Staniford).

ANGASTON AND NURIOOTPA.

Pears.—Very good prospects.

Apples.—Fortunately a very great improvement on last year.

Apricots.—The frosts caused a great deal of damage, only a few orchards escaped. Where they did there is good crop.

Plums.—Generally good, but prunes were damaged by frost.

TORRENS VALLEY.

Apricots.—Along banks of Torrens in many places they were cut by frost very badly, some growers losing whole of crop. Where not affected by frost, crop is very fair.

Peaches.—On the whole the crop is good, but not many Clings are grown.

Plums.—These are not extensively grown, but crop is good.

J. G. MUMFORD

(Established 1906)

Fruit & Vegetable Salesman

Account Sales Posted Daily

APPLE EXPORTER

"Fruit Exchange,"

449-451 FLINDERS LANE

Branches { Western Market
Victoria Markets

MELBOURNE

Reference—Satisfied Growers in all States

MARION DISTRICT.

Apricots.—The crop is a very fair one, and sample will be large and clean.

Peaches.—A good crop showing.

Almonds.—This is an almond-growing district, and the crop is a very good one so far.

Table Grapes.—Very little damage done by frost, vines look well, but too early to start crop prospects.

NORTON'S SUMMIT—BASKET RANGE.

Cherries.—Given favorable weather a bumper crop seems likely.

Gooseberries.—This fruit promises well, and a good crop with fair prices expected owing to shortage last year.

Apples.—Very good prospects, and

prices promise to be better than are usual when crop abundant.

LENSWOOD.

Apples.—Setting well, but it is too early to give definite report.

Pears.—Also set well, but are already showing signs of scab.

Plums.—Promise good crop, with exception of early blooming Japanese.

Raspberries and Loganberries.—These fruits are showing well, but it is rather unwise to forecast crop; they need a good rain.

Strawberries.—Crop up to average, but a frost recently did much damage.

Gooseberries.—Medium crop, and frost affected them. All the fruit needs a good soaking rain.—Mr. H. H. Schultz, Oct. 24.

FRUIT CROPS AT PARADISE, S.A.

Re fruit crops this year in our district, one would have to be very careful in making an estimate, as the late frosts which we have had all round have done considerable damage to most of the crops of fruit.

Apricots, which we are most interested in, will be about half a crop for South Australia.

Peaches will be fair and should return 75 per cent. crop.

Nectarines.—The same applies to this line. As stocks of jam fruit are low the prospects are that most lines of fruit will be wanted, and will realise good prices.—J. Donaldson, Paradise, S.A.

SOUTH AUSTRALIA.

Fruit Crop and Market Prospects.

The general manager of the Government Produce Department has received a cable from the Trade Commissioner (Mr. R. M. K. Lewis) stating that the market prospects for the coming season's Apple crop are very favorable owing to a shortage in this season's American crop, and buyers both in England and on the Continent are already making strong efforts to secure supplies.

The department has already made a sale of 20,000 cases of Cleopatras, Dunn's Seedlings, and Jonathans to a buyer in Stockholm (Sweden) at from 9/- to 9/3 per case f.o.b. Port Adelaide, on behalf of growers, and negotiations are in progress for further sales both to England and Germany.

All growers are at present looking forward to a record harvest, although some are complaining that frosts have done some damage.

As the 1926 good crop was practically sold at a loss, and there were no Apples for export during 1927, it

is sincerely hoped that the present splendid prospects both as regards quantity and prices will be realised, so that growers may recoup some of their losses of the past two years.

It is generally advisable for growers to consign their own fruit, and thus retain all the profits that the business offers, but it is quite understandable that after the bitter experience of 1926, they will favour the certainty of a sale on f.o.b. terms rather than risk the market by consigning.

The department is doing everything possible to help growers in this direction, and there are now indications that standard grades of Cleopatras are worth from 9/- to 9/6 per case f.o.b., Port Adelaide, with slightly lower values for other varieties.

The department will now be obtaining advices periodically as to prospects, from London, and these are available to all growers who desire the information.

ANSWERS TO CORRESPONDENTS.

Apple Root Borer.

Mr. W. P. Coleman, Somerville, writes:—"If an old orchard is grubbed out, in which root-borers have been, and are still, and turned into a paddock, can this be replanted with Apple trees without fear of again getting borers, and if so, how many years should it be allowed to run as a paddock? Also, is old ground recommended to be replanted?"

Answer (by J. M. Ward, Supt. of Horticulture).—Replanting land with fruit trees which had previously had fruit trees grubbed out owing to borer trouble, must of necessity be a very risky proceeding for several reasons, some of which are as follow:—

1. The suitability of sub-soil making it favorable to the pest for re-infestation at any time.

2. The lack of knowledge possessed as to the length of time spent in larval and pupal stage (this may extend over several years), which makes it impossible to answer the question "how many years should it be allowed to run as a paddock" before re-planting.

3. There is no guarantee that grubbing an orchard will get rid of root borers completely, as it has not yet been definitely settled whether or not the larvae of this beetle can exist on roots of strong growing grasses when the latter are growing on heavy soils.

PASTURE GRASSES FOR QUEENSLAND.

L. F. Copley, Nerada-road, Tinana, Maryborough, asks:—"What grass for grazing purposes would thrive on sandy loam country which at present is growing bracken or one-leaf fern and blady grass? If you could get any suggestions or information in regard to this matter, I would appreciate it greatly."

Answer (by Law, Somner Pty. Ltd.):—"The following grasses will thrive on the kind of country mentioned, and are excellent for eradicating bracken fern and other such grasses:—

Kikuyu Grass (*Pennisetum clandestinum*).—This is a perennial grass with vigorous surface and underground runners. It grows equally well in all kinds of soil, and stands drought well. It is very succulent, and is relished by all kinds of stock. This grass is propagated by roots only but grows and spreads quickly as each joint roots, and even a few hundred roots planted here and there in patches will soon give sufficient bite for stock and also enable plenty more roots to be taken off for further plantings. It is an excellent weed eradicator, and is now largely grown in N.S.W. and parts of Queensland. It is undoubtedly one of the finest grasses yet introduced into Australia.

Paspalum Compressum (Carpet grass).—This is also an excellent grass, and is specially suited for soils where Paspalum dilatatum does not thrive. It is a dwarf and compact growing grass, and makes well-matted roots. It has also been proved an excellent eradicator of bracken fern. Sow 5lb. per acre.

Bromus Inermis (The Awnless Brome grass).—This is a rapid-growing perennial grass, which withstands the severest droughts as well as the coldest winters. It grows equally well on practically all soils, and flourishes under unfavorable conditions better than any other grass. It is especially suited for light dry soils, and its indifference to the tramping of cattle makes it especially important in sandy and gravelly pastures. The roots form a very thick sod, crowding out weeds and other plants.

It grows to a height of 3 or 4 feet, furnishing an abundance of splendid hay and a quick aftergrowth which affords fine grazing. Sow 15 to 20 lb. per acre.

COMBATING RED SPIDER.

W. P. Coleman, Somerville, writes:—"What is the best method of combating Red Spider, that is, best time to apply oil, and what quantity? Also, when trees have set their fruit how to deal with them? I have tried 1 pint of nicotine sulphate with no good result."

Answer (by C. French, jun., Government Entomologist).—Spray with Red Oil 1 in 12 in the early spring just before the buds move. If nicotine sulphate is not effective, spraying with lime sulphur, 1 in 40, may be more efficient.

Spring Tyne & Rigid Tyne Cultivators

Cultivators which are superior and contain many novel Improvements



Riding Spring Tooth Cultivator, with Forecarriage.

The illustration shows a Riding Spring Tooth Cultivator with forecarriage. The whole machine is constructed on a good, sound basis, the jumps or floats are hinged strongly to the main frame, and are held down with pressure springs. The main fastening bolts are double nutted, which eliminates all side lash. The wheels are supplied with renewable boxes and axles, the lever is situated in front of the driver, is easily controlled, and is low down out of the way of the limbs.

D. HARVEY

Whitehorse Road, BOX HILL
Victoria

10 X 20

Canning Fruit Notes.

Goulburn Valley Fruits.

Arrangements to Supply Sydney Markets. Record Crop Expected.

FRUITGROWERS everywhere this season are rejoicing in the expectation of good to heavy crops; there is a general absence of serious pests and diseases, and—barring a visitation of hail or any such disaster—it is anticipated that record yields will be attained in many places.

This naturally brings up the question of markets, particularly in regard to soft fruits, which, in plentiful seasons, can so easily cause a glut and ruinous prices. The Northern Victorian Fruitgrowers' Association, which includes seven affiliated associations representing the principal fruitgrowing districts of the Goulburn Valley—Ardmona, Shepparton, Merrigum, Kyabram, Lancaster, Tatura, and Toolamba—is perhaps the most efficient organisation of its kind in Australia; it certainly has succeeded in solving a lot of the growers' problems, and is in a position to continue to do so. In order to deal with the anticipated heavy crop of Peaches and avoid glutting the Melbourne market, the Northern Victorian Fruitgrowers' have now made arrangements through their Sydney market representative (Mr. D. G. Wills) to forward their early Peaches in refrigerated cars to Sydney, where it is expected that a good market will exist.

Although this is an entirely new proposal in regard to early Peaches, a successful experiment was carried out some two years ago in forwarding Elberta Peaches from Shepparton to Sydney in refrigerated cars. The temperature in the cars was 70deg. when the fruit left Shepparton, and when tested by a representative of the Northern Fruitgrowers at Darling Harbour 2½ days later, the thermometer showed a rise of only 2deg., in spite of transshipment at Albury, and the fruit arrived in excellent condition.

This proves that Peaches can be successfully forwarded to Sydney under an efficient system of refrigeration, such as is proposed by Mr. Wills. The fruit can be picked in the same stage of ripeness as when forwarded to Melbourne; it will be placed overnight in the cool chambers at Shepparton and Ardmona, specially stowed the next day in refrigerated trucks and forwarded to Albury,

where it will be transhipped into further refrigerated cars, and will reach Sydney in practically the same condition as it leaves the Goulburn Valley.

This proposal was received most enthusiastically by Peach growers in the various districts. It has been amply proved that Peaches cannot be forwarded to Sydney satisfactorily under ordinary conditions; in most cases there is 50 per cent. loss. Mr. Wills, who has had long experience of the Sydney markets, states that the

can be made accordingly. The refrigerated fruit will arrive in sound condition, and can be further cool-stored if necessary until the market clears.

Another factor influencing the demand for soft fruits in Sydney is the fact that fruitgrowers along the Hawkesbury River, who formerly supplied the Sydney market with most of its Cherries, Peaches, Apricots, etc., have largely given up growing these fruits owing to the number of pests they had to combat, and have gone in for Citrus fruits, which find a very profitable market in New Zealand. It therefore seems likely that the demand for Goulburn Valley fruits will continue to grow, and there is no need for growers to worry over the question of additional plantings. It should also be possible to develop a market for these fruits in Queensland. By arrangement with the railways for the supply of refrigerated trucks, Peaches could be safely forwarded right up to Cairns (a matter of 2,000 miles), where it is estimated they would easily bring 6d. each. Soft fruits are regularly sent similar distances in America, and there is no reason why we should not do it here. The organization already exists which has commenced forwarding Victorian Apples and Pears from cool store to Sydney and Brisbane during the winter, and the extension of the service to embrace the interchange of all fruits at all seasons would be of benefit to growers in the three States.

In regard to Pears, a suggestion has been made that the Shepparton Cannery should buy the whole of the crop from growers, and ship the small sizes (say under 2½ in.) to Sydney as fresh fruit. This would practically amount to a Pear pool.

Mr. Wills, who has recently toured the Goulburn Valley, was delighted with the cleanliness and excellent condition of the orchards. He anticipates that, with the exception of Apricots, which promise a medium to good yield, the crops this season will be a record for the Valley.

MARGETSON & CO. LTD.

Fruit Importers & Salesmen

30 James St. and James
St. Warehouses,
11 Neal St.,
COVENT GARDEN
LONDON, W.C.

and at
Jamaica House.
9 & 10 Botolph Lane, London, E.C.
& 56-58 Stanley St., Liverpool

Sales by PRIVATE TREATY.
Prompt Returns & Settlements
Tel. Add.—FRUTERO, LONDON.
MARGETSON, LIVERPOOL

Head Office—Covent Garden
Market, London, W.C.

Bankers:
LLOYD'S BANK LIMITED
Law Courts Branch, Strand,
London, W.C.

Shipping Nos.
431 and 432

BROWN ROT OF PEACHES.

Plant Pathologists Confer.

At the Interstate Conference of Plant Pathologists held in Melbourne at the end of September, Mr. S. Fish (Assistant Plant Pathologist, Victoria) outlined the history of Brown Rot of peaches in Victoria and its present distribution. He described the experimental work at present in hand, and indicated that a spray schedule consisting of lime sulphur wash 1-9, as the buds swell, 1-35 at

prospects there for early Peaches are excellent, owing to the abnormally high prices for Apples and Pears during the past winter, and to the high prices of Bananas and Pineapples. There is an undoubted demand if the supplies can be regulated to avoid gluts, and under the system of bulk loading established by Mr. Wills, the quantities going forward are always known beforehand, and arrangements

pink bud stage; 1-80 as the fruit begins to colour, and 1-100 three weeks before the fruit is to be picked, had given the most satisfactory results.

Dr. Noble (N.S.W.) stated that they had had no trouble from Brown Rot in New South Wales for a number of seasons.

Mr. Samuel (Waite Research Institute) said that the disease was unknown in South Australia, although it had been recorded as occurring there by Mr. McAlpine.

Mr. Carne (W.A.) stated that it was unknown in Western Australia.

The question of Hairy Root or Crown Gall on Apple stocks was also exhaustively discussed, and it was decided to investigate the matter further.

Two plant quarantine stations are to be established, one in a tropical and one in a temperate area, through which new fruits and plants can be introduced.

GREEN PEACH APHIS.

Drench the Trees With the Spray.

The N.S.W. Department of Agriculture is co-operating with growers on the Murrumbidgee Irrigation Areas in carrying out investigations for the control of green Peach aphid and thrips. It has already been demonstrated that miscible red oil emulsion applied in late winter or early spring will control this pest. To test still further the efficiency of this and other sprays, arrangements were made by the Government Entomologist with the Water Conservation and Irrigation Commission for the carrying out of spraying experiments on selected blocks on the Irrigation Area at Leeton and Yanco. Miscible red spraying oil (1 gallon to 25 gallons of water), various new proprietary oil sprays, lime-sulphur, and other likely sprays were tried out on these blocks, but latest reports from the area indicate that the aphid infestation this year is very light so far, and growers, therefore, should not be greatly troubled in dealing with the aphid this spring.

Should, however, the green Peach aphid appear during the spring when it is too late to use the oil spray; i.e., after the buds have swelled, the trees should be given a spraying with nicotine sulphate (40 per cent.), 1 part to 600-800 parts of water by volume. The value of this spray depends almost entirely upon the application being given at high pressure and the tree being drenched with the mixture. Hold the spray nozzle close to the foliage (about 1 foot away) and if plenty of spray is applied, every leaf

and twig will be drenched—a most important point.

It is impossible to lay too much stress on the importance of doing the spraying thoroughly. Mixing the spray is really only preliminary work. It is the application that is of paramount importance. Many complaints as to the ineffectiveness of sprays advocated by the Department have been traced to careless application, and have not been due to any defect in the spray. Generally, it has been found on investigating that not only has insufficient spray been used on each tree, but the spray has not been applied with enough force to make it penetrate and drench every portion of the tree. It is poor economy to save the spray mixture when it also

means saving the lives of the very pests it is intended to destroy.

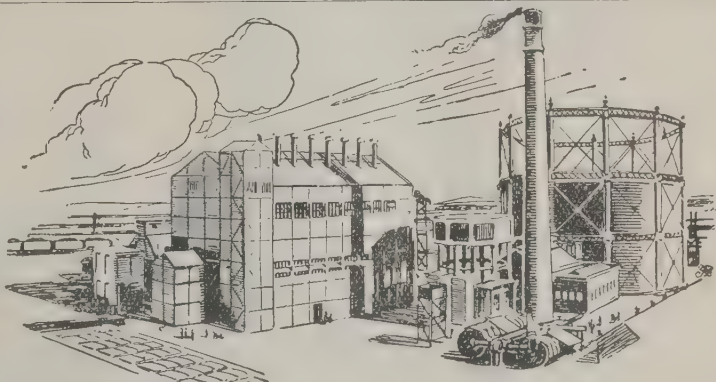
Pat had bought a motor-bicycle, and travelled very cautiously, not being a brilliant driver.

As he was riding down a hill a motor-car passed him at a terrific rate.

When the motorist reached the bottom of the hill he saw, upon glancing back, that Pat was slowly walking down the hill, bruised and dazed, wheeling his motor-bike.

"What's the matter?" he inquired.

"Well," said Pat, "when you shot past I thought my bike had stopped, so I got off to see what was the matter."



Where Does It Come From ?

Sulphate of Ammonia is a by-product of the gas works and steel works. The city home using gas for cooking and heating, and the industry that uses Australian steel are helping the farmers, and orchardists, and market gardeners of the State towards the solution of their fertiliser problems.

Sulphate of Ammonia

Is our foremost nitrogenous fertiliser—produced in Australia, by Australians, for Australian agriculture, and makes us independent of outside sources of the supply of nitrogen for agriculture. Requiring the best and cheapest means of supplying nitrogen to their crops, Australian growers naturally turn to

SULPHATE OF AMMONIA.

Sales of sulphate of ammonia last Spring constituted a record.

Literature gratis from

THE METROPOLITAN GAS CO.
196 Flinders Street - - - Melbourne

General Australasian Representative:

H. G. COLOMBIE

Temple Court, Collins Street, Melbourne

'Phone: F3284.

Telegraphic Address: "Columbine," Melbourne.

Over twenty years' experience in the marketing of fruit in the United Kingdom and on the Continent.

INCREASE Y

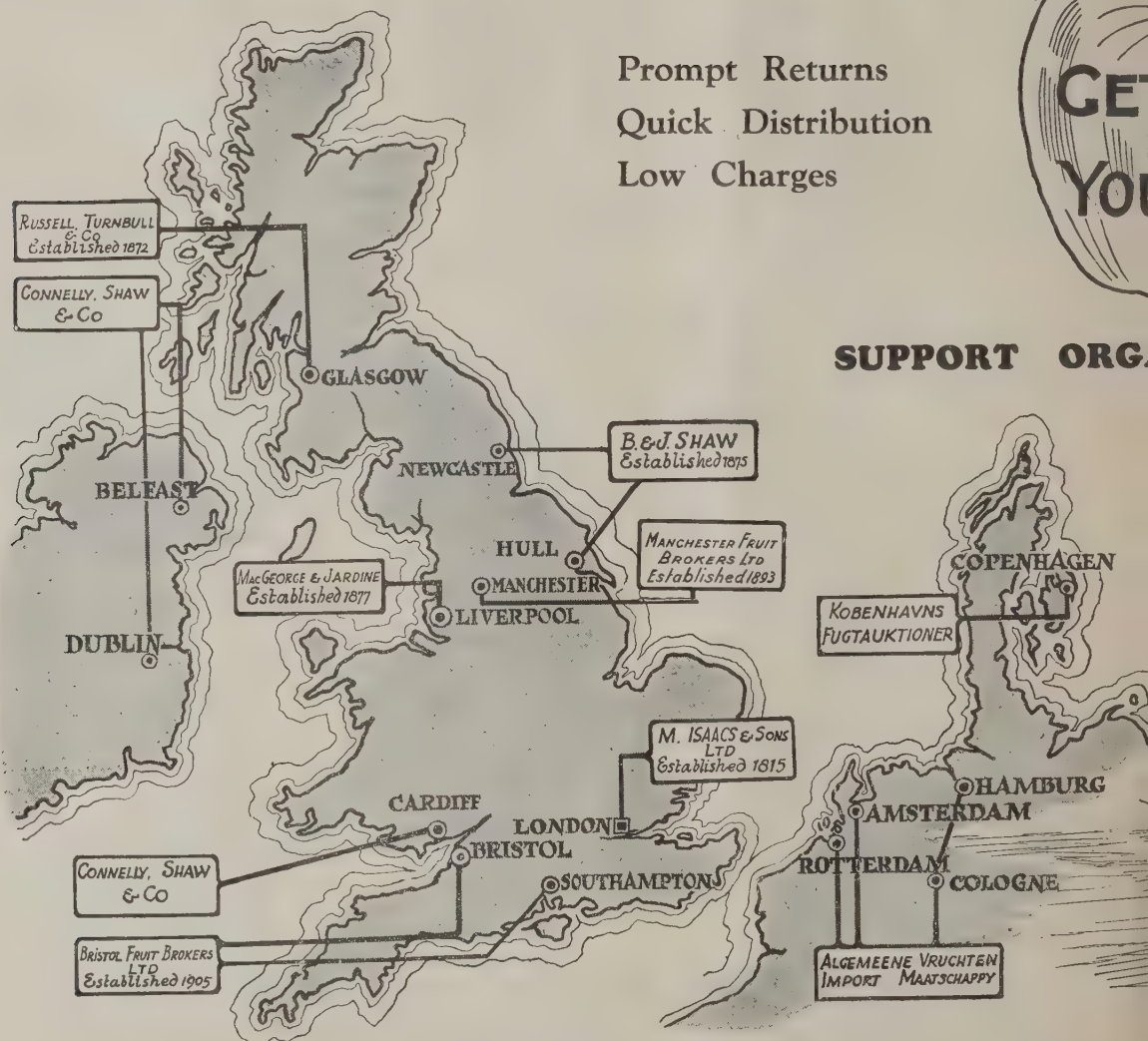
BY

COMPLETE AND

Prompt Returns
Quick Distribution
Low Charges

GET
YOU

SUPPORT ORG.



By entrusting the sale of their fruit to any of the firms dealing with Federated Brokers and obtaining the full benefit of above-board marketing.

The marketing of fruit is a complicated and delicate operation requiring experience and special skill. The Brokers referred to possess the

Every advantage of orderly marketing, regulated offering, and knowledge of what happens to your fruit, is assured to you by a system of operation not built up on paper, but created by generations of solid

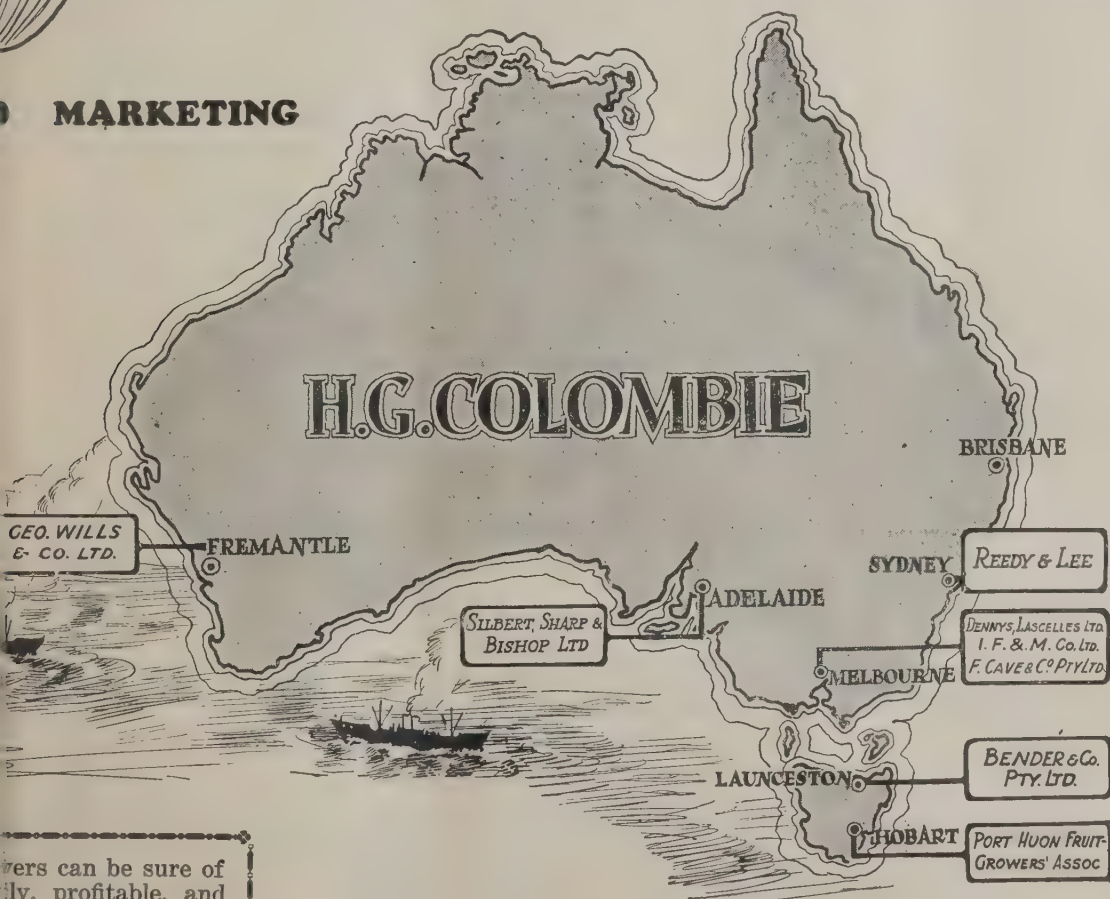
OUR RETURNS

THIS
DIRECT ORGANISATION



For shipping space, advances, etc., apply to the Shipping Representatives shown on this map.

MARKETING



Shippers can be sure of
highly, profitable, and
efficient marketing for great ex-
ports to all markets, and full
attention; an organisational
practical experience.

AUSTRALIAN GROWERS!

Profit by the experience of others, and SUPPORT ORGANISED MARKETING.

CENTRALISE the sale of your fruit IN the ONE RECOGNISED AUCTION SALEROOM AT EACH PORT, where Overseas Fruit is concentrated, and where large numbers of buyers attend regularly, ensuring WIDE DISTRIBUTION.

This CONCENTRATION ENABLES BROKERS to REGULATE SUPPLIES and STABILISE PRICES.

By this system BUYERS are MADE to COMPETE for the fruit to the BENEFIT of YOUR RESULTS; whilst by other methods Salesmen compete to obtain buyers.

CATALOGUES are printed for Buyers before sale, and reprinted after sale, SHOWING ACTUAL PRICES PAID for your fruit. No manipulation of results possible.

Parcels are sub-divided to enable all buyers to compete on equal footing.

Each parcel is valued by Auctioneer before sale, and lots not realising reserve prices are withdrawn.

Tasmania

Berry Fruits - District Reports - News and Notes - Orchard Operations

(By Our Correspondent)

THE WELCOME RAINS which were generally experienced during early November have proved most beneficial to the fruit crops, especially stone fruits—raspberries, strawberries, etc.—which were beginning to show the effects of the dry weather.

The Apple and Pear orchards are looking remarkably well, and so far very little fungus infection is noticeable.

Red Spider, however, is showing up in a number of districts, and growers are apprehensive that the pest will be troublesome this season, especially with the trees showing prospects of heavy yields.

Buyers are already operating and securing fruit for overseas export, the prices ranging from 6/6 to 7/3 per bushel f.o.b. port of shipment. These purchases are mostly to fill buying orders, and very little business is yet being done on a speculative basis.

State Fruit Advisory Board.—The election of producers' representatives on the Fruit Advisory Board resulted in the return of all the sitting members, except in one instance, Mr. O. J. Morrisby, of Sandford, taking the place of Mr. F. Cole, Huonville, who resigned his seat before the election.

Although the poll was much below expectations, the results may be taken as a vote of confidence in the general policy and operations of the Board. The election was conducted on the "Hare Clark" system, the southern municipalities being grouped

into divisions. The personnel of the Board during the year will be as follows:—Neil Campbell, M.H.A., and E. Reed, W. Tamar; J. H. Astell, Spryton; W. H. Calvert, M.L.C., Huon; A. Davies, Cygnet; B. J. Pearsall, Kingsborough, Esperance; T. J. Eddington, Burnie, Brighton, Glenorchy, Hobart, Hamilton, Norfolk, and Bothwell; O. J. Morrisby, Clarence, Oatlands, Tasman, Sorell, and Richmond; F. Peacock, Canned Fruits; J. P. Piggott, M.H.A., Exporters; V. J. Skinner, Dried Fruits.

The Chairman, Mr. Neil Campbell, M.H.A., has announced that he will not seek re-election to the position he has occupied during the last two years owing to the pressure of parliamentary duties.

Export of Fresh Berry Fruits.—At the request of the Development and Migration Commission, a special meeting of the State Fruit Advisory Board was held during early November, in order to discuss the possibilities of developing a trade in fresh berry fruits between Tasmania and the mainland.

Mr. W. R. Bunker (who has made investigation, at the request of the Commission, into the production and marketing of Tasmanian Berry fruits, addressed members and detailed the work that had been accomplished in this direction on the mainland in conjunction with the Victorian Railways.

After a long discussion, in which the suggested method of operation was closely examined, a resolution was

passed expressing approval of some experimental shipments being forwarded this season.

The State Government was also requested to provide £1,000 for the purpose of organising and conducting such experiments, so that the possibilities of the market might be tested before embarking on the scheme on a commercial scale.

Imperial Marketing Board.—During the visit of the members of the Imperial Marketing Board, arrangements were made for one of the party (Mr. L. Huxley) to visit the Huon Fruit Districts. An itinerary was arranged, in which Mr. Huxley, together with the Chairman of the Development and Migration Commission (Mr. H. W. Gepp), Mr. P. Keam, and the State Fruit Expert (Mr. P. H. Thomas) were able to visit the principal areas of production. Mr. Huxley expressed himself as experiencing one of the most interesting and enjoyable days during his tour, and especially commented on the potentialities of the district and the high standard of culture maintained by the orchardists.

DECEMBER ORCHARD NOTES.

(By P. H. Thomas, State Fruit Expert.)

ORCHARDISTS are now in a position to estimate the approximate production from their different fruit areas, and make their plans accordingly.

Marketing Preparations.

Case material should be on hand as soon as possible and carefully stacked to allow for drying. One of the best methods to ensure this being carried out satisfactorily is the square system. The ends and sides are stacked in pairs at right angles in the form of

DENNIS & COOPER LTD.

COVENT GARDEN, LONDON, ENGLAND
Fruit Brokers and Commission Salesmen

FINANCIAL FACILITIES OFFERED

Make your Shipments of **APPLES** through
BENDER & CO. PTY. LTD.

Hobart Office: 4 Davey Street.

100 Elizabeth Street, LAUNCESTON

WHO WILL SUPPLY ALL INFORMATION

a column, and weighted at the top to prevent buckling or warping. This allows for adequate ventilation, and the production of seasoned cases, which are preferable for the export trade.

It is desirable, also, to obtain the other materials necessary for packing and marketing well in advance of the period of operation. The essentials for giving facility in handling a large quantity of fruit are convenience and systematic working. Most fruit packing sheds could do with a good overhaul and a rearrangement to effect these improvements. The most convenient method is to pack in the centre of the shed, overhead light in the form of skylights being available for this purpose. Fruit received from the orchard can then be stacked in the most convenient position without interfering with the light, similarly that which is branded and ready for export may be assembled at the main outlet.

Fruit Shipments United Kingdom and the Continent

**W. D. PEACOCK
& CO.**

24 Southwark St., London Bridge,
LONDON, S.E. 1.

AND HOBART, TASMANIA
Solicit Consignments

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

Spraying.

Codlin Moth.—During the first week of the month the second arsenate of lead spray should be applied to control the Codlin Moth. In several districts it is noticeable that certain of the leaf and fruit eating insects are on the increase, particularly the "looper" caterpillar. The first arsenate spray (calyx stage) will control such insects, and it is noticeable that where this has been applied practically no injury is visible on the young fruits.

Red Spider (*Bryobia pratensis*) is giving trouble in some districts, especially upon areas which have not received the strong "dormant" oil sprays. The effect of this treatment is plainly evident upon the demonstration plots selected for this work. At the present time the best means of checking infestation is by the application of the atomic sulphur sprays. These can be mixed with arsenate of lead and applied in combination.

The difficulty in effectually controlling Red Spider at the present period is in applying a contact spray sufficiently strong to kill the spiders without injury to the fruit or foliage. Another disadvantage is the habit of the spiders of sheltering under the leaves, which gives them protection against most sprays, except those of a volatile nature. Several new sprays which give promise of proving satisfactory in this respect are being tested this season.

Powdery Mildew.—The majority of orchardists have reduced the powdery mildew amongst their susceptible varieties to a minimum, by the use of the iron sulphate and atomic sulphur sprays. In cases where the disease is still experienced, it is advisable to continue with atomic sulphur at a strength of 1lb. to 12 gallons of water.

Black Spot.—Very few fruitgrowers took risks of Black Spot infection in their Apple and Pear orchards this season, and the crops are generally showing the benefit of the treatments. This season the weather conditions have not been conducive to the development of the disease, but it is easy to pick up a fair percentage of infected fruits on unsprayed areas. Growers are advised to keep a close supervision of susceptible varieties, such as Cleo., Sturmer, etc., and if further signs of infection appear to treat with weak Bordeaux (1-1-40), or Lime Sulphur (1-60) 32deg. Beaume test.

Thinning Crops.

An inspection of the crops in the different districts reveals that most varieties are likely to carry far greater crops than they will be able to satisfactorily develop. At about the middle of the month the true prospects may be more correctly gauged, as the majority of smaller-sized fruits, which are showing, will fall.

Growers are advised to thin out crops that remain too crowded after this period. This will be necessary for their satisfactory development, especially those which are classed amongst the "small varieties."

Re-working Fruit Trees.

At this period it will be necessary to go over trees that have been re-worked by grafting earlier in the season, and trim back all shoots other than those springing from the scion. In cases where the graft has "missed" it is advisable to maintain either one or two shoots in an advantageous position at the head of the limb for budding during February and March.

"Do you understand the nature of an oath, madam?" asked the attorney of the fair witness.

"I'll tell the world I do. I married a sailor," was the emphatic response.

NOTES FROM WINKLEIGH (TAS.).

I have pleasure in submitting the following opinion of fruit crop prospects for the coming season:—The principal fruits grown are:—Apples, chiefly Jonathan, Sturmer, Munro, Cleo., Cox's Orange, a few Tasma, Crofton, King David, together with a few of the earlier sorts; a few Pears, such as Williams, B. Bosc, and Winter Cole are grown.

There was generally a good blossoming, but just at a critical period between the bloom and the setting a series of frosts occurred, which in some areas did considerable damage. Present indications are for a fair setting of most Apples, where frosts did not damage the setting. Pears are light. Present indications are that Apples will be heavier than last year's crop. There is a feeling of

TASMANIA

Leading Australian Firm of
Fresh Fruit Exporters.

Manufacturers IXL Jam and
Canned Fruits.

Hop Factors—Largest Cool
Stores for Hop Storage in
Commonwealth.

All Orchard Supplies available
at all times.

Agents for—

Associated Evaporated
Apple Manufacturers, London
Assurance Corporation, Federal
Steam Navigation Co. Ltd.,
Scottish Shire Line of Steamers,
Osaka Shosen Kaisha.

Correspondence Invited.

H. JONES & CO. LTD.,
HOBART

general disappointment throughout Tamar districts, as a result of growers having rejected the "Export Marketing Act" proposal. Should there be a heavy crop of fruit in Australia and New Zealand next season, with a drop in prices to below the cost of production, as usually occurs, the expression of feeling will be still more emphatic. It is generally recognised that a proper system of marketing must be put in to enable fruit growers to stand up to present day excessive costs.—Neil Campbell, Winkleigh.

Cloth used in the manufacture of auto. cushions at the plant of the Ford Motor Company of Canada Limited, is given a rubbing test of nearly a million strokes before it is put into production.

Remember your tongue is in a wet place, and likely to slip.

FOR SPRAYING, LIMEWASHING and DISINFECTING

RELIABLE AND EFFICIENT MACHINES ARE ESSENTIAL

Before Placing Your Order ASK A FRIEND

WHO HAS USED A

VERMOREL "ECLAIR" SPRAYER

TO TELL YOU HIS OPINION OF IT
ACTUAL USE IS THE BEST TEST

The types made include the following:—

HAND SPRAYERS
PNEUMATIC HAND SPRAYERS
KNAPSACK SPRAYERS
PNEUMATIC KNAPSACK SPRAYERS
BUCKET PUMPS
BUCKET SPRAYERS
SINGLE WHEELED SPRAYERS
TWO WHEELED HAND POWER SPRAYER
high pressure model (220 lbs. per square inch)

CART SPRAYERS
AUTOMATIC HORSE DRAWN SPRAYERS
POWDER BELLOW
KNAPSACK POWDER
SPRAYERS
AUTOMATIC HORSE DRAWN
POWDER SPRAYERS
3 H.P. MOTOR SPRAY OUTFITS

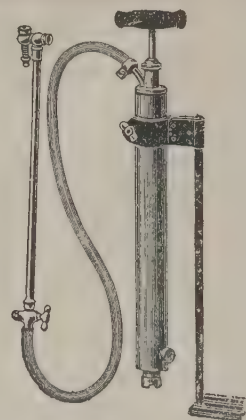
LIQUID CAPACITIES 1½ pints to 88 gallons.

PRICES FROM 2/9 to £80 each

The above types include machines for Spraying Trees, Bushes, Ground Crops, and for applying Limewash, Whitewash, Distemper, Waterpaint and Disinfectants.

Ask your local Merchant for full particulars, or write for catalogue and leaflets to:—

COOPER, PEGLER & CO. LTD., 24d CHRISTOPHER STREET, LONDON, E.C.2.



OVERSEAS FRUIT MARKETS.

Manchester Second to None.

(By W. J. Wade.)

UNTIL a few years ago nearly all fruit and other produce exported from Australia to Great Britain was shipped to London as a matter of course, and hardly a second thought was given to the claims of any other place as a favorable centre for marketing and distribution.

Latterly, however, the urge of "economic pressure" has impelled producers and merchants to look more closely into the possibility of cutting down post-war costs of transport and distribution. Representatives of the Commonwealth and State Governments, Control Boards, and of various producers' organizations, have during recent years investigated the conditions of marketing and distribution in Great Britain, and it is now realised that "London is not England," that some of the great British provincial markets are as well or better adapted for the distribution of certain varieties of primary produce, and that, provided regular supplies of suitable qualities are made available, they can distribute to their respective "economic areas" to better advantage and at lower costs than when shipped via London.

As an example of this, the advertisement columns in the present issue prove that Manchester is second to none as a market for Australian and Tasmanian fruit, and it is safe to say if regular supplies of suitable varieties were shipped direct to that port throughout the season, better results would be secured for the producers and shippers than is possible when the

greater part of such fruit is landed at some other port, and forwarded to Manchester by rail or road.

The fact that Australian and Tasmanian Apples were offered for sale in the Manchester sale rooms each week between April 22 and August 5 last, although only two shipments were discharged at Manchester Docks, proves that a very large sum was expended for handling and transport, which undoubtedly reduced the nett returns to shippers by a corresponding or greater amount, and also involved additional risk of deterioration and pilferage.

The various steamship agents concerned are now drafting their freight tonnage programmes for next export season, and if growers and shippers will definitely state their requirements and the itinerary of discharge ports preferred, before the programmes are finalised, there is no doubt consideration will be given to applications for additional direct tonnage to Manchester.

The great modern port, nearly 40 miles inland, with over 400 acres of docks—23ft. deep—equipped with all the latest labour-saving appliances for rapid and efficient handling and despatch of perishable produce, is the natural market and distributing centre for over 200 cities and towns in the "economic area" containing nearly 12 million consumers, for whom Manchester is the nearest deep-water port.

Sales are held regularly twice a week throughout the year in the Imported Fruit Auction Rooms near the docks, and it is nothing uncommon for 100,000 packages to be sold under the hammer (by sample) in a day, to re-

tail traders from all parts of the Midlands and North of England, the bulk being despatched to their orders from the docks within two or three hours of purchase.

Manchester's great wholesale fruit and vegetable market is the finest of its kind in England—possibly in the world. It is over 6 acres in extent, mostly under a single roof, with convenient intersecting roadways and passages to facilitate the expeditious receipt and despatch of the huge quantities of fruit and vegetables which are consigned thence from all parts of the world, to serve the needs of the population in the surrounding "economic area."

The requirements of the teeming millions in this area will have to be supplied sooner or later by the cheapest and most direct route, viz., via the Manchester Ship Canal and Docks, and it is up to the producers and shippers of Australia to assist in reducing handling and transport charges to a minimum, by insisting on shipping by the shortest and cheapest route from producer to consumer.

NEW APPLE STOCK USED IN N.S.W.

Mount Keira Seedling.

Mr. Levitt, Fruit Inspector in the Mt. Wilson district (N.S.W.), states that Applegrowers there are using a new stock—Mount Keira seedling—for Apples, by the use of which it is hoped that Gravenstein Apples may be grown without the characteristic twist of the main stem and leaders. A noteworthy feature of this stock is its deep-rooting habit, in which respect it has a distinct advantage over the Northern Spy.



Less Cultivation Tends Towards Better Soil Conditions.

Californian Experience.

(By A. L. Chandler, in "Citrus Leaves.")

FROM OBSERVATION of groves all over the California Citrus growing area it seems a fact that those which have been cultivated the most during the summer, in many cases, have the worst soil condition. On the other hand, cover-cropped groves seldom have plough soles. Frequent cultivation in the summer turns up the organic matter and organic fertilisers, so that the hot sun destroys them. This type of cultivation depletes the organic matter in a soil very rapidly. Since organic matter helps keep the soil open and porous, it is readily seen that the soil also becomes more difficult to handle under such treatment.

Plough Soles Created.

Continuous cultivation also tends to form plough soles. As the soil is stirred the coarser particles come to the surface, and the finer ones go to the bottom. As a result, the finer particles accumulate just below the level of cultivation. If the soil contains much clay and lime there is a natural cement formed that neither water nor roots will penetrate.

No Cultivation Tried.

There are a few outstanding instances where a grove has been kept in good condition with no cultivation at all for a number of years. A stand of alfalfa or Bermuda grass has been maintained and commercial fertiliser applied, but no ploughing or cultivation used. There are many disadvantages to such a treatment, and it is very doubtful if it would be successful as a general practice. But it does show the possibility of successful Citrus growing without continuous cultivation.

Cover Crops.

Many growers have cut down their

operating costs and at the same time improved soil conditions by growing at least one cover crop a year. Penetrating of the soil by the roots of the crop and the subsequent decaying of these roots make more humus in the lower root zone, than it is possible to obtain from manures. It is possible to plant cow peas the last of May to be disced the last part of August. By planting melilotus idica, purple vetch, or horse beans in September, another fall and winter crop can be grown to be ploughed in the spring. A large amount of organic matter can be grown in this manner, but it is easier to rely on one crop, and it makes it a good one.

In the last few years the summer crop of cow peas or soy beans has come into its own. Growers claim that a summer crop keeps the soil cooler, and the moisture content more even during the hot months. These are usually the months when most cultivation is done. By eliminating this summer cultivation the soil is actually found to be easier to till, and the moisture penetration is better.

One danger threatens in growing cover crops. This is that the soil will be kept too wet, because of the extra water applied. A cover crop makes extra irrigation necessary. But the moisture content of the soil must be watched closely, so there will not be the other extreme of too much water. Do not irrigate a wet soil.

Where no cover crop is grown, you can still keep cultivation to a minimum. Instead of cultivating, after every irrigation period, it is often found that better penetration is obtained by leaving the same furrows until the second irrigation. This is something that can be determined by

experiment on the individual grove. Every soil must be handled differently. But at least it is not necessary to cultivate more than enough to lay-out for irrigation, and then level off afterwards. It is only necessary to keep weeds down. A dust mulch does not save enough moisture, where irrigation is practiced, to make it worth while. There is, perhaps, some saving of capillary moisture with a dust mulch, but compared with the water taken by a thirsty tree, it is so small an amount that it is negligible.

By keeping growth measurements during the summer, one grower found that cultivation actually retarded the sizing of fruit. He kept weekly measurements of the sizes in a cultivated grove and in a cover cropped grove, and found fairly uniform growth where there was a cover crop, but noticed that after a cultivation there was a short period when the Oranges did not grow in the clean cultivated grove.

Ploughing.

Cutting down the amount of cultivation does not mean the elimination of ploughing. A deep ploughing either in the late fall or early spring seems to be good practice. Professor Vaile found that groves that were ploughed in this way every year produced better than those that were ploughed at irregular intervals. Ploughing in the fall does little damage because the root cutting done at this time has no harmful effect on tree or crop. By ploughing every year, the roots are forced down where they belong. A deep-rooted tree is not affected by hot waves or dry winds so much as a shallow-rooted tree.

Sub-soiling in the fall is also desirable where there is a plough sole. A sub-soiler that has a lifting action not only breaks the plough sole but mixes it with the rest of the soil so there is less possibility of the same trouble recurring within a short time.

New Zealand.

Crop Reports and Market Prospects.

THE DIRECTOR of the Horticulture Division of the N.Z. Department of Agriculture has received the following reports from his officers regarding orchard and marketing conditions at the end of October, 1927:—

Auckland.

Apples.—Trees in splendid condition; a heavy flowering. **Lemons.** General condition of trees fair only, but now making good growth. **Nectarines.** Have set light crop; rain during flowering. **Oranges.** Rather less bloom than usual. **Peaches.** Light to medium crop only. **Pears.** Set very patchy, though district crop should be average. **Plums.** Rather below average crop, owing mainly to rain during flowering. **Loganberries.** Canes are in good condition and flowering for heavy crop. **Strawberries.** Plantings well up to average. Crop late, and some mortality of plants owing to continued rain. **Tomatoes.** Medium to heavy crop indoor; outside planting under way.

Thames and Bay of Plenty.

Apples.—Most varieties of Apples are still in bloom, consequently it is impossible to predict with any degree of accuracy what percentage will set. Fireblight has not yet made its appearance in Apple blossoms this season. The blooming in all varieties has been exceptionally profuse, and indications at present are that there will be a very heavy crop.

Apricots.—The Newcastle variety have set a medium crop in most orchards. The crop of Oullin's Early varies from light to medium, and Moorpark, as is usually the case in this district, have set only a light crop.

Lemons.—The main winter crop has now been mostly harvested, and the earliest fruits of the summer crop are just reaching maturity. A medium crop of summer fruit is to be found in most Lemon groves. The blooms that will produce the next winter crop are slightly earlier than usual this season. Judging by the amount of bloom now showing, this crop should be the heaviest ever experienced in the district.

Oranges.—Profuse blooming, and are expected to set a heavy crop. **Peaches and Nectarines.**—Medium crop.

Plums.—A heavy crop has set in most varieties of English and Japanese Plums.

Strawberries.—Picking has just commenced, and if the weather re-

mains suitable there should be a good crop.

Tomatoes.—A greater area than usual has been planted, and indications point to there being a heavy crop. The Cladysporium disease is not so troublesome this season.

Gisborne.

Apples.—Very heavy setting. **Apricots.**—Average to short. **Cherries and Plums.**—Average. **Gooseberries and Nectarines.**—Light. **Lemons.**—Promise of heavy crop. **Oranges.**—Good blossoming. **Peaches.**—Generally light. Leaf-curl much in evidence. **Pears.**—Generally light. **Strawberries.**—Fruit coming in well; heavy crops. **Tomatoes.**—Growing well.

Hawkes' Bay.

Apples.—Indications are for heavy crop generally. Cox's, Jonathan, Dunn's, Gravenstein will be greatly

HAMBURG

(GERMANY).

Ph. Astheimer

And Sohn,

Fruit Brokers . .
and Auctioneers

(GERMANY)

Established 1863.

Largest receivers of Australian,
Tasmanian, and American
APPLES.

Foreign Apples a Speciality.

in excess of last season's crop. **Apricots, Nectarines, and Plums.**—Average. **Cherries.**—Promise of good crop. **Gooseberries.**—Heavy. **Peaches.**—Early sorts light; mid-season average; late sorts heavy. **Pears.**—Below average; Winter Cole patchy. **Tomatoes.**—Heavy plantings outdoor. Under glass poor set lower bunches; lighter than usual.

Wanganui.

Apples.—Heavy. **Apricots, Gooseberries, Lemons, Pears, Strawberries, and Tomatoes.**—Average. **Cherries, Nectarines, Oranges, Peaches, Raspberries and Walnuts.**—Short crop. **Plums.**—Short crop. **Plums (Japanese).**—Average.

Conditions have been much more favorable this year than the corresponding period of last year. Apples, particularly, give indications of a very

heavy setting. Moderate weather conditions have facilitated the setting of stone fruits. Of the small fruits both Gooseberries and Strawberries are the most promising.

Manawatu and Wairarapa.

Apples.—Well forward, practically all varieties. Promise heavy crop. **Apricots, Nectarines, and Peaches.**—Good average setting. **Cherries.**—Well forward; promise well for heavy crop. **Pears.**—Promise of heavy crop. **Plums.**—Fair setting. **Plums (Japanese).**—Heavy setting. **Raspberries.**—Well forward. **Strawberries.**—Well forward; promise of heavy crop. **Tomatoes.**—Rather backward.

Favourable weather conditions prevailed during the early part of the month. All fruit trees blossomed very heavily. Present indications point to a very heavy crop of fruit, especially Apples.

Waikato.

Apples.—Medium to heavy blossom and promise of good setting. **Gooseberries.**—Set well and expect medium to heavy crops. **Lemons.**—Fair crop expected; bit troubled with brown rot. **Nectarines.**—Good setting; bit troubled with brown rot. **Oranges.**—Fair crops of Poorman Oranges expected. **Peaches.**—Crops set well; brown rot prevalent. **Pears.**—Good setting on all varieties. **Plums.**—Indications of heavy crop. **Strawberries.**—Present indications are for good average crops. **Tomatoes.**—Glasshouse plants well forward.

Nelson.

Apples.—Present prospects indicate a heavy setting of all varieties, under splendid weather conditions, which should ensure a clean crop. **Apricots.**—A light crop. **Cherries.**—A good crop promising. **Gooseberries, Nectarines and Peaches.**—Good. **Lemons.**—Fair. **Pears.**—Good setting in practically all varieties. Black spot in evidence in some orchards. **Plums.**—Fair crop. **Strawberries.**—A good crop developing. **Tomatoes.**—Prospects satisfactory. Some damage to outside plants owing to frost on 27th October.

Nelson Central.

Apples.—All varieties setting well. Present indications point to record crop. Black spot showing up on leaves in the majority of orchards, but where growers are busy with the spraying outfit it is being kept off the fruit. Bronze beetle and leaf-hopper have made their appearance early this season, consequently we may look for an early appearance of codlin moth. Red mite is showing up badly in most of the orchards where an oil spray at Green Tip was neglected, those orchards that received an oil spray being practically free from this troublesome pest.

Pears.—The setting of Pears ap-

pears to be much heavier than previous seasons. The pear midge has made its appearance again, and is causing considerable damage. Black spot has made its appearance, apparently not sufficient Bordeaux being used, or too weak a strength.

Strawberries.—Promising well for a good crop; if weather continues favorable, some fruit should be placed on the market about the middle of the month.

Motueka.

Apples.—Very heavy blossoming all varieties. Fruit setting well and appearance of very heavy crop. Trees in good condition, foliage being particularly healthy. Very slight traces of black spot on foliage in places.

Apricots.—Poor; very little fruit set. Bad weather at blossoming period. **Cherries.**—Average crop anticipated. Not quite as much brown rot as formerly. **Gooseberries.**—Very good; appearance of heavy crop. Bushes very healthy. **Nectarines.**—Very medium. Weather conditions bad at setting period. **Peaches.**—Some varieties setting well; should be average crop.

Pears.—Majority of varieties very good. Winter Nelis setting much better than previous seasons. Traces of black spot in places, but majority very clean.

Plums.—Medium to good. **Raspberries.**—Canes healthy and making good growth. Promising well at present. **Strawberries.**—Healthy, showing for good average crop. **Tomatoes.**—Looking well on whole. Frost during October did considerable damage to outside plants.

Marlborough.

Apples.—Good setting in all varieties. Somewhat thinned by late frost and high winds; prospects good crops. **Apricots and Plums.**—Heavy setting. **Cherries.**—Good setting. **Gooseberries.**—Heavy crops coming forward. **Nectarines and Peaches.**—Good setting. Green aphid much in evidence. **Pears.**—Only fair crops showing. **Raspberries.**—Fair crops. Rain badly needed. **Strawberries.**—Good crops coming forward. **Tomatoes.**—Plants growing well. Good crops coming forward under glass. **Walnuts.**—Light crops are showing.

Canterbury.

Apples.—Almost all varieties have blossomed very heavily, and the weather was very favorable during period of bloom. **Apricots.**—Very heavy setting; no damage from hail. **Cherries.**—Crops good in all localities. **Gooseberries.**—Good crops promising, but a little damage by hail. **Nectarines.**—Crops are well up to the average. **Peaches.**—Heavy setting of nearly all varieties, but a good deal of silver blight. **Pears.**—All varie-

ties blossomed well, and crops should be well up to the average. **Plums.**—A good setting. A large amount of bladder on Evans' Early. Slight damage to fruit by hail. **Plums (Japanese).**—Fairly good setting, but a good deal of bladder on Burbank. Slight damage by hail. **Raspberries.**—Canes promising very well. **Strawberries.**—Plants are looking well. **Tomatoes.**—Heavy planting. Plants had slight set-back with hail storm. **Walnuts.**—Looking well.

Dunedin.

Apples.—Exceptionally heavy blooming throughout Otago and Southland. **Apricots.**—Heavy setting of fruit in Central and North Otago. **Cherries.**—Heavy setting of fruit in Central and North Otago. **Gooseberries, Nectarines, Raspberries, Strawberries, and Walnuts.**—Average crop. **Peaches.**—Heavy setting of fruit. Brown rot and peach die-back in evidence. **Pears.**—Heavy blooming throughout Otago and Southland. **Plums.**—Heavy setting of fruit.

Brand Your
Fruit Cases and Bags
 with
CALDWELL'S
STENCILLING
INK
 (In Cakes and Liquid)
QUALITY UNSURPASSED
 Obtainable All Merchants
 Local Agents Wanted
CALDWELL'S PTY. LTD.
 Yarra Bank Road
 South Melbourne, Vic.

Central Otago.

Apples.—Most varieties blossomed heavily except Jonathan, which is very patchy. Some injury by frost in few localities to Delicious. **Apricots.**—Very heavy setting. Growers now commencing to thin. Slight injury by frost in few localities. **Cherries.**—Heavy setting. Slight injury by frost in few localities. **Nectarines, Peaches, Pears and Plums.**—Heavy setting. Slight injury by frost in few localities. **Raspberries and Strawberries.**—Looking well. A little injury by frost. **Tomatoes.**—Young plants looking well. **Walnuts.**—Starting away well. Stone fruit trees generally looking very well and carrying heavy crops.

Tram Conductor "Hi, mister! Don't hop off till she stops. If you break your neck, I'll be the one to suffer."

PROSPECTS AT HAWKE'S BAY.

The principal fruits grown are Apples, Pears, Peaches and Plums. Varieties:—Apples: Gravenstein, Cox's Orange Pippin, Munroe's Favorite, Jonathan, Delicious, Sturmer Pippin, Granny Smith, Ballarat Seedling, Dougherty. **Pears:** Williams' Bon Chretien, Louis Bon Jersey, Beurre de Capiaumont, Beurre Bosc, Winter Cole, Winter Nelis, P. Barry. **Peaches:** Mayflowers, High's Early Canada, Eulates, Carmen, Wiggins, Peregrine, Hunter's, American Pound, Kalamazoo, Mary's Choice Paragon, Gold Dust, Hobb's Late, Solway. **Plums (English):** Evan's Early, Diamond, Greengage, Giant Prune, Grand Duke, Monarch, Pond's Seedling. **Plums (Japanese):** Wright's Early, Santa Rosa, Burbank, October Purple.

Crop Prospects.—Apples heavy; Pears, medium to light; Peaches, heavy, excepting early varieties; Plums, medium.

Apples are heavier than last year; Pears somewhat lighter; Peaches, very similar; Plums, about the same.

The acreage under fruit in Hawke's Bay is about 2,800 acres; quantity produced last season was between 400,000 and 500,000 cases. No serious trouble is threatened from any particular insect or fungoid pests, growers being able to control these to a satisfactory degree if proper spraying precautions are taken.—Hawke's Bay Fruitgrowers' Association Inc., per F. Young, mgr., 8/11/27.

IMPERIAL FRUIT SHOW.

Australian Fruit Scores.

The Imperial Fruit Show, which was held at Manchester from October 28 to November 5, was largely attended and was a great success. The Victorian navel Oranges exhibited were of excellent quality. Australia was the only competitor in the canned fruits competition, awards being made as follows:—Pears: Gold medal, Ardmona Cannery (Vic.); silver and bronze medals, Kyabram (Vic.). Peaches: Gold medal, Shepparton (Vic.); silver medal, Ibis Cannery (N.S.W.); bronze medal, Shepparton.

The New Zealand exhibit included choice Statesman and Sturmer Apples, which had been in cold storage since July 16. Sixteen out of 20 cases were in excellent condition.

Thrip has visited Western Australia this season, and considerably reduced the Apple crops, which are generally expected to be light. Weather conditions and the heavy crop of last year are also considered to have had some effect on the setting.

Are You Preparing

"To Choose the Best is Wisdom."

for the coming Fruit Season?

Your Fruit will soon be ready for market.

There is only One Way you can obtain the Best Prices for your Fruit, by putting it up AT A MINIMUM OF EXPENSE in an Attractive Manner to COMPEL PEOPLE TO BUY.

You cannot do this without a "LIGHTNING" Fruit Grader, which will do the work of four men, thereby saving you Needless Wages, and giving you results impossible for men to arrive at, viz.:—

Evenly Graded Fruit, which is more Quickly Packed at a SMALLER COST.

You want The "Lightning" Fruit Grader the Best! is the Best and the Machine to Save you the most Money CANNOT BRUISE THE FRUIT.

Catalogue on Request.

Order Early to Ensure Prompt Delivery.

Fruit Well Graded is Half Sold.

LIGHTNING FRUIT GRADER CO.

5 HODDLE STREET, COLLINGWOOD
M.L.BOURNE, VIC.

Cable and Telegraphic Address: "Lightning," Melbourne

FRUIT CROP PROSPECTS.

(By P. H. Thomas, Fruit Expert, Tasmania).

Tasmania.

The reports which have recently been received from the principal fruit districts throughout the State will now enable the crop prospects to be estimated.

Apples.—The weather throughout the blossoming period was ideal, being warm and sunny without any condition which would adversely affect fertilisation.

With the exception of the Tamar and N.E. districts, in which a late frost was experienced, and in many cases considerably injured the young fruits, the general reports indicate that if the present prospects materialise the crops should be considerably over normal, and result in a record yield.

The following varieties are recorded as a "heavy" setting in nearly all districts:—Cleopatras, Sturmer, Jonathan, Cox's Orange Pippin, Tasmania (Democrat), Adam's Pearmain, and Stone Pippin. Those stated to be showing the prospects of a good to medium yield are Duke of Clarence, Ribston Pippin, Delicious, Crofton, Dunn's, Alfriston and London Pippin.

Very few districts report a "light setting" of any varieties, the only

complaints being in respect to Scarlets and French Crabs, the former in some cases falling heavily just after setting, and the latter due to the trees "off season."

Whilst the majority of varieties have reached that point in which the prospects can be approximately estimated, the yields cannot be gauged until about mid-December.

The experience of previous seasons has shown that with a very heavy setting a "drop" generally follows during November, which considerably thins out the crops. The weather conditions also will affect the development of the fruits, particularly in respect to fungus diseases.

Apricots.—An early frost was experienced during September, which affected some of the low-lying areas in the Bagdad and S.E. districts. This occurred in only a few instances, the majority of orchards reporting a very heavy setting, which will necessitate thinning in order to produce quality fruits. The rains which have recently been experienced will considerably benefit this fruit, and there are prospects that the yield will be slightly above normal.

Pears.—The short spell of cold, snowy weather which was experienced around September 25 seems to have affected the setting of Pears, particularly in Southern districts. Reports from all centres indicate that

the prospects are variable, and should only result in a medium yield. The following are the details in respect to the principal varieties.

Beurre Clairgeau, Beurre Bosc and Beurre de Capiaumont, Napoleon and Keiffer are reported as having set heavy in a few instances, but mostly medium to good.

Beurre Bosc, Gansell's Bergamotte, Glou Morceau, Williams and Winter Cole medium to good.

Doyenne du Comice, Giblins, Josephine de Malines, and Winter Nelis have in most cases only set light crops.

Plums.—Varieties were also affected by the cold spell experienced in late September. The indications are for only a medium crop. Greengages and Golden Drops are generally reported to be "very light" in most districts.

Cherries.—The areas planted with Cherries are very few and scattered; the reports received are extremely variable, and will hardly enable an estimate to be made of the prospects for the whole State.

Berry Fruits.—The November rains have considerably benefited these fruits, and following the dry, warm weather, came at a critical period of development.

Plantations are reported to be showing an abundance of blossom, particularly black currants and logan-

berries, and a strong growth of new canes.

There is every prospect of record crops being again harvested, but this will depend largely upon the weather that is experienced during the next month previous to ripening.

Mainland States.

The detailed reports received from the Departments of Agriculture are not yet to hand, but advices received show that the prospects of the Apple crops are very similar to Tasmania, and that the setting has been generally satisfactory.

The following reports have been received from the English, Canadian, and American Departments in respect to the Apple crops for the present season:—

England and Continent.

The English Apple crop is definitely larger than last year. Early varieties are fairly plentiful, especially Worcester, while later varieties are shorter. Early cooking varieties will offer strong competition, but shortage of Bramley Seedlings will help the situation later in the season. Continental Apple prospects are greater than last year, but quality poor. It is quite probable that there will be little demand for barrelled stock on the Continent, but a fair demand for boxes. Scandinavian crops are short, and the demand prospects are good. Owing to the light crop Sweden should take barrels as well as boxes. English Pears are very short, while French early varieties are nearly over, and the late kinds are short. On the other hand, Belgian and Dutch Pears are plentiful, but will not greatly influence quality demand. English Plums are generally poor, but fair quantities are now on the market. Greengages are below average, and Damsons are a short crop.

Canada.

The Canadian commercial Apple crop is now estimated at 92 per cent., with 2,740,800 barrels compared with 2,984,200 barrels last year, and 82 per cent. of a five-year average of 3,327,600 barrels. This makes the estimate approximately 243,000 barrels less than 1926, and 258,000 barrels less than the forecast of a month ago, the reduction being due to extensive aphid injury, hail damage, and severe storms in the eastern provinces and prolonged drought followed by hail damage in some sections in British Columbia.

The combined commercial Pear crop of British Columbia and Ontario indicates a yield of 103 per cent., or 211,730 bushels compared with 205,210 last year. Ontario crop is estimated at 185 per cent., or 114,320 bushels, and British Columbia 97,400 bushels,

or 68 per cent. of 1926. Quality is fair to good.

United States.

The United States Government report covering conditions for September 1st estimates the commercial Apple crop to be 24,198,000 barrels, as compared with 39,411,000 barrels last year, and a five-year average of 33,710,000 barrels. This is a slight reduction over last month, and approximately 15,000,000 barrels less than last year. The eastern barrel States are exceptionally light, especially New York, Virginia, and Michigan, while the combined Western box States of Washington, Oregon and California show a slight reduction compared with last year, but Idaho shows an increase.

APPLE EXPORT OVERSEAS.

Prospects for 1928 Season.

ON THE EVE of a fresh exporting season, apple growers are no doubt looking for some guiding information. The following factors will have some bearing on overseas prices for Australian Apples, says Mr. H. G. Colombie, of Temple Court, Melbourne.

American Crop.—This year, generally, much lighter than usual. Barrelled varieties are computed at about 55 per cent. to 60 per cent. of normal, but the shortage is not so marked for boxed varieties, being only about 10 per cent. less. Quality, generally, only fair for barrelled, but good for boxed Apples.

Canadian Crop.—Slightly heavier than last year, especially Nova Scotians.

European Crops.—These are about normal, some countries being below, and others above last year, but, generally speaking, quality and condition are not too good.

English Crop.—Much larger than last year, but still well short of a full crop. Much of the fruit is poor.

Forecast for Coming Australian Season.—We can ignore European and English Apples, as they should be out of the way when Australian Apples arrive overseas. In normal seasons, barrelled varieties of American and Canadian Apples are usually terminating overseas when Australian Apples make their appearance, but it would seem that this season they should be over, so that we should miss their competition. As the American shortage is so marked in the barrelled varieties, it is reasonable to expect that the box varieties will be marketed earlier, and at a more rapid rate, to make up the deficiency

of barrelled Apples. As circumstances indicate that box Apples should be in smaller supply than usual, their competition will be reduced, which, in turn, should mean good prices for Australian Apples, but "how good" will depend largely on Australian growers themselves. For instance, a very great deal will depend on the out-turn of the first cargoes arriving overseas. (Much more depends on this than growers usually realise.)

Varieties.—If Australian exports are abundant, it is possible that the demand will be concentrated on certain well-known varieties, with a correspondingly lesser demand for outside varieties, and if these are in heavy supply, there may be an appreciable difference in the results of the poorer varieties.

Sizes.—This is an important factor. There may be a fair amount of small fruit in 1928, and if any 2in. are exported in large quantities, they may not only obtain low prices, but they may be a nuisance to the good fruit of good marketable size.

The moral here again is for growers to seriously consider the sizes and varieties they think of exporting. Too great a supply of poor Apples overseas may not only result in poor returns to the growers exporting them, but if they clog the market they may also injure the prices of good fruit.

Distribution.—A further factor of importance is the distribution at ports of arrival overseas. It is to be hoped that shipments will be so divided as to ensure as wide a distribution as possible. It is usually a failing with Australian exporters to over-supply London and starve other ports. It is not difficult to realise that an over-supplied market only leads to low results, which become the basis for other markets. Growers have the remedy in their own hands, by insisting that a fair proportion of their exports shall be sent to ports other than London.

Economic Conditions in U.K.—There are indications that the industrial position is gradually, if slowly, improving, especially in the heavy trades; at any rate, the circulation of money has become more fluid, particularly among the masses, which should prove favourable to the consumption of fruit.

Good Prospects.—To sum up, prospects overseas for Australian Apples in the coming season seem good—especially for good fruit. For the outside poorer varieties and 2in. Apples, this may depend on the quantities available.

Queensland

Crop Prospects - News and Notes - December Orchard Work

(Notes by Our Correspondent)

MOST favourable weather for crop development and growth has continued to prevail in the principal fruit districts, and though humidity has favoured fungus growth, its presence has been appreciated in other directions. Tomato growers who have omitted spraying or dusting from their programme (and there are very many) see the prospect of returns materially diminish under the presence of Irish Blight, which has been fairly general this season. Infestation is noted in practically all areas, not omitting Bowen, which was previously looked upon as immune. The fallacy that, with the exception of winter crops, our climate was too warm for the development of the disease, is exploded, humidity having demonstrated its superiority over temperature in this respect.

The Citrus Grower is profiting by the conditions which are most favourable for the growth and dissemination of parasitic fungi, which prey upon the various scale insects, and will effect more benefit than a most complete spraying. Though cyaniding was more or less in vogue in Citrus orchards some years ago, it had subsequently been almost entirely abandoned, but is now being resurrected through the energies of an enthusiast who undertakes the fumigation of orchards at a very reasonable cost. "Cyanogas" is used, and with entire satisfaction, though prejudices against this fumigant still exist in some localities.

In respect of treatment for pests and diseases, the dimensions which trees should be permitted to attain is an important consideration. With every justification it is contended that an orchard of moderate-sized trees reasonably tended in all respects is preferable to one made up of outside seedlings—even if the crop may show a slight reduction—which is questioned. The fruit can be more readily maintained with a clean, presentable appearance. Cyaniding very large trees is reasonably impracticable, as also is spraying, but with the latter the disadvantages are not so obvious.

The Limitation of Varieties for planting has been the subject of much consideration, and agreement is reported to have been reached, also in regard to the selection of budwood. The local nurserymen have fallen in with the ideas, and will confine their attention to the varieties recom-

mended by Citrus representatives of the C.O.D., and procure their budwood only from a source recommended by the fruit branch of Agricultural Department.

Crop Prospects.

For some time past the local prices for fruit have been exceptionally high, but with the prospect of a bounteous crop a more reasonable rate is in sight. Early in the spring it was reported that much of the Stanthorpe (temperate) fruit had been destroyed by frost, but the damage was very much over-estimated, and a good supply is expected from that source.

Though grape vines have been satisfactorily produced in that district for many years, the expansion of grape culture has been very limited, but it is reported that attention is being given to preparation for the inclusion of a reasonable area. The coastlands produce early soft varieties in fair quantity, but the firmer kinds are not a success, and a good market awaits the tableland production.

The Persian Peaches are also failures on the lowlands, but the semi-tropical product of Chinese and Indian types—mostly of local origin—are infinitely preferable, but not adapted for distant carriage. There is room for an appreciable increase in areas at profitable rates.

The Maori and other mites become active on Citrus fruits as the temperature increases, and close attention is essential to secure clean fruit. Lime-sulphur solution has been the general application against Maori, but trials are being given to "dusts" this season, and the results will be awaited with interest, also whether cyanided trees show infestation.

ORCHARD NOTES FOR DECEMBER.

The Coastal Districts.

THE PLANTING of Pineapples and Bananas may be continued, taking care that the ground is properly prepared and suckers carefully selected. Keep the plantations well worked and free from weeds of all kinds, especially if the season is dry. New plantations require constant attention, in order to give young plants every chance to get a good start; if checked when young they take a long time to pull up, and the fruiting period is considerably retarded. Small areas

well worked are more profitable than large areas indifferently looked after, as the fruit they produce is of very much better quality.

This is a very important matter in the case of both of these fruits, as with the great increase in the area under crop there is not likely to be a profitable market for inferior fruit. Canners only want first-class pines of a size that will fill a can, and cannot utilise small or inferior fruit, except in very limited quantities, and even then at a very low price. Small, badly filled bananas are always hard to quit, and with a well-supplied market they become unsaleable.

Pineapple growers, especially those who have a quantity of the Ripley Queen variety, are warned that the sending of very immature fruit to the Southern markets is most unwise, as there is no surer way of spoiling the market for the main crop. Immature pineapples are not fit for human consumption, and should be condemned by the health authorities of the States to which they are sent.

Citrus orchards require constant attention; the land must be kept well worked and all weed growth destroyed. Spraying or cyaniding for scale insects should be carried out where necessary. Spraying with fungicides should be done where the trees show the need of it. A close lookout must be kept for the first indications of "maori," and as soon as it is discovered the trees should either be dusted with dry sulphur or sprayed with the lime-sulphur, potassium, or sodium sulphide washes. Borer should be looked for and destroyed whenever seen.

Early Grapes will be ready for cutting. Handle carefully, and get them on to the market in the best possible condition. A bunch with the bloom on and every berry perfect will always look and sell well, even on a full market, when crushed and ill-packed lines are hard to quit.

Peaches, Plums, Papaws, and Melons will be in season during the month. See that they are properly handled. Look out for fruit fly in all early ripening stone fruit, and see that none is left to lie under the trees to rot and thus breed a big crop of flies to destroy the mango crop when it ripens.

Keep leaf-eating insects of all kinds in check by spraying the plants on which they feed with arsenate of lead.

Look out for Irish blight in potatoes and tomatoes, and mildew on melons and kindred plants. Use Bordeaux or Burgundy mixture for the former, and finely ground sulphur or a sulphide spray for the latter.

THE GRANITE BELT, SOUTHERN AND CENTRAL TABLELANDS.

Early ripening Apples, Plums, Apricots, Peaches and Nectarines will be ready for marketing during the month. They are unsatisfactory lines to handle, as the old saw, "Early ripe, early rotten," applies to all of them; in fact, the season of any particular variety is so short that it must be marketed and consumed as quickly as possible. All early ripening deciduous fruits are poor carriers and bad keepers, as their flesh is soft and watery, deficient in firmness and sugar, and cannot, therefore, be sent to any distant market. The available markets are quickly over-supplied with this class of fruit, and a glut takes place in consequence.

Merchants frequently make the serious mistake of trying to hold such fruits, in the hope of the market improving, with the result that, instead of improving, the market frequently becomes more and more congested, and held-over lines have to be sent to the tip.

There is only one way to deal with this class of fruit, and that is to clear the markets daily, no matter what the price, and get it distributed and into consumption as rapidly as possible by means of barrowmen and hawkers.

Most early ripening fruits are useless for preserving in any way, their only value being what they will bring for consumption whilst fresh. This being so, it is only a waste of time and money to forward immature, undersized, and inferior fruit to market. It should never have been grown, as it is frequently only an expense to the producer, and becomes a breeding ground for fruit fly and codlin moth, as well as of fungi, such as those producing the brown and ripe rots.

Orchards and vineyards must be

kept in a state of perfect tilth, especially if the weather is dry, so as to retain the moisture necessary for the development of the later ripening fruits. Where Citrus fruits are grown, an irrigation should be given during the month if water is available for this purpose, excepting, of course, there is a good fall of rain sufficient to provide an ample supply of moisture.

Codlin moth and fruit fly must receive constant attention and be kept under control, otherwise the later-ripening fruits are likely to suffer severely from the depredations of these serious pests.

Grape vines must be carefully attended to and sprayed where necessary for black spot or downy mildew, or sulphured for odium. Where brown rot makes its appearance, spraying with the potassium or sodium sulphide washes should be carried out. Leaf-eating insects of all kinds can be kept in check by spraying with arsenate of lead.

Tomatoes and potatoes will require to be carefully watched in order to prevent loss from Irish blight, and no time should be lost in spraying these crops should this disease make its appearance in any part of the district, as it can be prevented by spraying with either Bordeaux or Burgundy mixture. These fungicides effectually protect the plants to which they are applied if used in time. If leaf-eating insects, such as beetles, grasshoppers, and caterpillars are doing damage as well, add 3 or 4 lb. of arsenate of lead to the 100 gallons of spraying mixture used for the prevention of early and late blight (potato macrosporium and Irish blight), so that the one application will be effectual for both classes of diseases. —"Queensland Ag. Journal."

A MERRY CHRISTMAS!

We wish our readers the good old wish, A Merry Christmas, and a Bright and Prosperous New Year. May the Weather Clerk be kind, may the hail come not, and the codlin moth, thrips, scale, and all other pests cease from troubling! In other words —Good Harvest!

LONDON'S FRUIT TRADE.

The fruit trade between London and some of the overseas Dominions has grown to immense proportions. In 1926, nearly 2,000,000 cases of Apples, Pears, Grapes, and Oranges were imported from Australia, Tasmania, and New Zealand, and many thousands of packages of Apples came from Canada. South Africa also sends considerable quantities of Plums, Grapes, Oranges, Nectarines, and other fruit.

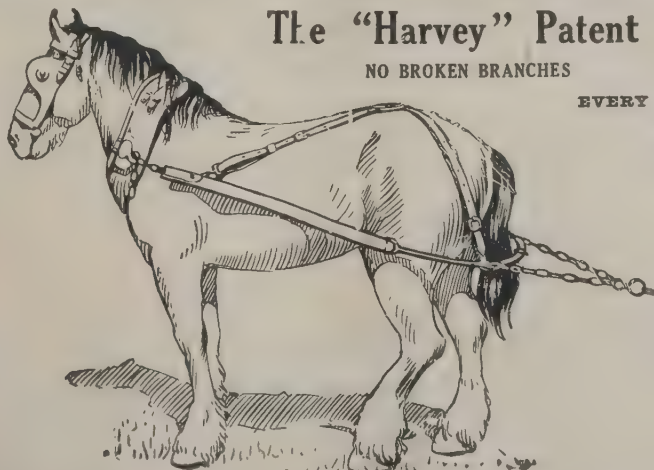
Cargoes of fruit are discharged at the Royal Victoria, Royal Albert, King George V., and Tilbury Docks by modern types of cranes, or by chain and gravity conveyers, which lift the cases from the cold chambers of the ships and deposit them into the well-lighted, airy, and perfectly equipped transit sheds of the Port of London Authority. Here they are sorted to merchants' requirements, and delivered to the London markets, such as Covent Garden, Spitalfields, and Borough, which are within easy reach of the principal docks. As each of the docks referred to is directly connected with the railways, fruit is speedily despatched to all parts of the country. Buyers from all parts of England and Europe regularly attend the London sales, and, as a result, there is seldom a glut of fruit.

The "Harvey" Patent Orchard & Farm Harness

NO BROKEN BRANCHES

NO BARKED TREES

EVERY ORCHARDIST KNOWS THE HAVOC DONE BY CHAINS AND SWINGING BARS.



The "Harvey" Harness has no loose trace chains to become entangled in the horse's legs when turning.

There are no swing-bars, trace chains, hooks or buckets to catch on the branches of fruit trees.

Without Patent Adjustable Draught you can cultivate much closer to the trees than with any other harness. In cultivating through maize, nursery stock, or sugar cane it is essential.

This Harness is adjustable to suit a low or high draught implement; it is light, strong, and durable. You cannot afford to be without it.

D. HARVEY

Whitehorse Road, Box Hill
VICTORIA

The Fruit Trade

Market Reports and News Items

REPRESENTATIVE FIRMS, FRUIT MERCHANTS, AGENTS, EXPORTERS,

Advertising in this Journal.

NEW SOUTH WALES.

Sydney.

Chilton, F., City Fruit Markets.
Greenberg, S. & M., Fruit Markets.
Louey Pang & Samuel Wong Ltd.,
Thomas St., Haymarket.

VICTORIA.

Melbourne.

Colombie, H. G., Temple Court.
Producers' Dist. Society, Western
Market.
Cave, F., & Co., Melbourne.
Davis, J., Western Market.
Lister, G., Western Market.
Millis, A., & Sons, Western Markets.
Mills, J. B., & Co., Bank House, Bank
Place, Melbourne.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L., Little Bourke
Street.
Ross, J. W., Western Market.
Silbert, Sharp & Davies, Western
Markets.
Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Woolf, G., Western Market.
Wholesale Fruit Merchants' Assn., J.
D. Fraser, 325 Collins St., Melb.

QUEENSLAND.

Brisbane.

Barr, A. S., Fruit Exchange.
Collard & Mackay, Fruit Exchange.
Comino Bros. Ltd., Fruit Exchange.
Cooksley & Co., Fruit Exchange.
Geeves, H. V., Fruit Exchange.
Robsons Ltd., Fruit Exchange.
W. J. Whitten & Co., Fruit Exchange.

TASMANIA.

Hobart.

Jones & Co. Ltd., H., Fruit Exporters.
Peacock & Co., W. D., Fruit Ex-ports.
and at London.
Piesse & Co., C.

Launceston.

Bender & Co. Pty. Ltd., 100 Elizabeth
Street.

NEW ZEALAND.

Dunedin.

Co-operative Fruitgrowers' of Otago
Ltd.

GREAT BRITAIN.

London.

Dennis & Cooper Ltd., Covent Garden.
M. Isaacs & Sons Ltd.
Margetson & Co. Ltd., Covent Garden.
Monro, Geo., Ltd., Covent Garden.
Foupart, T. J., Covent Garden.

Ridley, Houlding & Co., Covent Gar-
den.
Swann & Co., 3 Salter's Hall Court.

Liverpool.

MacGeorge & Jardine.
Jas. Adam, Son & Co., Fruit Ex-
change.

Kull.

Shaw, B. & J. (also Newcastle).
White & Son Ltd.

Bristol & Southampton.

Bristol Fruit Brokers Ltd.

Cardiff, Belfast & Dublin.

Connelly, Shaw & Co.

Glasgow.

Russell, Turnbull & Co.

Manchester.

Manchester Fruit Brokers Ltd.
The Port of Manchester, rep., W. J.
Wade, 8 Bridge Street, Sydney.

GERMANY.

Bremen.

Fruchthandel, Gesellschaft.

Hamburg.

Astheimer, P. H., & Son, Fruchthof.
Lutten, J. H., & Sohn, Hanburg.
Stier, Aug., Fruchthof, Reps. J. B.
Mills & Co., Bank House,
Melbourne.
Timm & Gerstenkorn.
Algemeene Vruchten Import Maats-
chappij (also Cologne).

HOLLAND.

Amsterdam & Rotterdam.

Algemeene Vruchten Import Maats-
chappij.

DENMARK.

Copenhagen.

Kobenhavns Fugtauktioner.

Softwood Pine Cases



Some Advantages in Favor of Imported Cases

1. Less weight to handle.
2. Quicker to cart to boat or rail, as 10 per cent. additional boxes can be loaded, due to box weighing only seven pounds.
3. Softwood shooks being less than half the weight of hardwood, they can be carted in a much shorter period.
4. All timber cut to exact sizes, making it an easy matter to assemble a symmetrical case.
5. Every piece of timber fit and ready for use, thereby eliminating waste.
6. Better returns to the growers.
7. Much less bruising of fruit in transit.

C. H. TUTTON PTY. LTD.

Royal Exchange Buildings

40 Queen Street, Melbourne

Phone : F 3837

Telegrams & Cables : "Tutbox," Melbourne

AMERICAN FRUIT IN BRITISH MARKETS.

Liverpool, 12/10/27.

Messrs. J. C. Houghton & Co. report an all-round improvement and better demand for American Apples. In box Apples there was strength in the demand for anything with colour, and a few Jonathans satisfactory in this respect were well competed for and promptly sold. The closing quotations of the Gravenstein season were only slightly less discouraging to senders than those which have gone before. It was again evident that the trade is not paying much attention to them now.

Oregon & Washington.—Jonathan, 8/6, 17/-; Gravenstein, 8/6, 12/6; King David, 10/6, 15/-; Wealthy, 8/6, 10/6; Hubbardston, 7/6, 10/3; Sutton, 10/9.

Pears.—Many Keiffers were small and green, and sold badly. Prices were as follow:—

American.—Keiffer: Barrel, 11/9, 17/-; best, 20/-, 21/6; box, 5/6, 7/6; Anjou, box, 14/-, 22/-; B. Bosc, box, 20/-, 23/6; B. Hardy, box 19/-.

Virginian.—Keiffer: Barrel, 20/-, 28/-.

Oranges.—Californian were fair, and realised 20/- to 26/- box; defective 15/- to 19/-.

CANADIAN FRUITS.

Ottawa, 17/10/27.

The following quotations have been received from the Canadian Fruit Trade Commissioner in England:—

Glasgow, October 13.—Ex ss. Metagama and ex ss. Gracia, Columbians, Apples, boxes, McIntosh, Fancy, 15/- to 16/-; Wealthy, Extra Fancy, 12/11 to 13/5. Washington: Jonathan, Fancy, 10/11 to 14/2, C grade, 9/11 to 12/5. Oregon: Gravenstein, Fancy, 8/8 to 9/11, C grade, 8/8 to 9/5. Washington: Grimes Golden, Fancy, 9/5 to 10/11, C grade, 10/5.

London, Oct. 14.—Ex ss. Ausonia. Ontario: Peaches shipped in refrigerator space and in excellent condition, sold at 7/9 per box, others very wasty. Monarch and Grand Duke Plums satisfactory, trays 4/11 to 5/11. Washington: Apples, boxes, 14/11 to 15/5. Oregon: Pears, Anjou, Fancy, 19/11 barrel. Ontario: Pears, Flemish, 14/11. Market firm. Immediate prospects promising.

SALES OF AUSTRALIAN ORANGES.

London, 1/11/27.

A shipment of Valencia Oranges from Western Australia has been landed from the steamer Moreton Bay. The fruit is of poor quality, being thick-skinned and rough. Part of the shipment has been sold at auc-

tion, realising 11/- to 13/- a case, and part is being sold privately at slightly higher rates.

The Argentine embargo on the importation of Apples from South Australia and Victoria has been lifted, subject to the usual inspection at Buenos Aires.

AUSTRALASIAN MARKETS.

New South Wales.

Sydney, 16/11/27.

Mr. F. Chilton, City Fruit Markets, Sydney, reports:—

Queensland Fruits.—Bananas, 16/- to 26/- per case; Pines, Smoothleaf, 18/- to 27/- doz.; Papaws, 10/- to 20/- doz.; Tomatoes, 7/- to 16/- per half-case; Cucumbers, 2/6 to 5/- per bus. case.

N.S.W. Fruits.—Bananas, 16/- to 27/- per case; Lemons, 9/- to 20/- per bus. case; Oranges, Valencia, 8/- to 18/- doz.; Oranges, Navel, 10/- to 20/- doz.; Cherries, 5/6 to 10/- per quarter-case; Gooseberries, 4/- to 10/- doz.; Apricots, 4/- to 12/- per half-case; Plums, 6/- to 14/- doz.; Passions, 18/- to 30/- doz.; Tomatoes, 10/- to 20/- doz.; Cucumbers, 3/- to 5/- doz.

Tasmanian Fruits.—Apples: F.C., 19/- to 23/- per bus. case; S.T.P., 12/- to 19/- doz.; Dem., 18/- to 24/- doz.

Victorian Fruits.—Pears: B.P., 18/- to 23/- per bus. case.

At the present time early Summer fruits, with Tomatoes and Cucumbers, are coming on the market and meeting a brisk demand. Old season Apples ex cold stores are still available, but prices have eased and the demand is not keen. Oranges and Lemons are expected to improve in values until mid-Summer.

VICTORIA.

Melbourne, 21/11/27.

The following were the ruling wholesale quotations at the Western Market:—Apples—Good to choice eating, 20/-, 25/-; good to choice cooking, 16/-, 18/-; Tas., 20/-, 22/-. Bananas—Queensland, special, 29/-, 31/-; Fiji, choice, 22/-, 28/-, standard, 14/-, 20/- a double case. Cherries—Good to choice dark, 12/-, 13/- a half-case; good to choice light, 6/-, 7/- half-case. Lemons—Vic., 12/-, 15/-. Oranges—Murray Districts, Vic., 18/-, 22/-; Murray districts, S.A., 18/-, 22/-; Goulburn Valley, 12/-, 16/-; N.S.W., 7/-, 11/-. Navel Oranges—Murray districts, Vic., 18/-, 25/-; Murray districts, S.A., 18/-, 25/-; Goulburn Valley, 13/-, 18/-. Pineapples—Queens., 18/-, 22/- double case. Tomatoes—S.A., 24/-, 26/- half-box. Cucumbers, 4/- to 5/-. Strawberries, 9d. to 1/3 box.

WESTERN AUSTRALIA.

Perth, 17/11/27.

Apples.—Granny Smith, prime dumps, 14/- to 18/- Rokewoods, 12/- to 15/9; Yates, 15/- to 18/-. Oranges.—Navels, dumps, 9/- to 12/6 (special to 17/-; others from 8/-); flats, 7/- to 10/6; Valencias, dumps, 10/- to 14/-; flats, 6/6 to 10/6. Lemons.—Flats, 3/- to 8/6. Loquats, flats, 17/- to 25/-. Cape Gooseberries, 6½d. and 8½d. lb. Strawberries, 11/- to 19/6 per doz. punnets. Cherries, trays, 17/- to 23/3. Apricots, flats, 13/- to 17/-.

QUEENSLAND.

Brisbane, 18/11/27.

Lemons, prime, 6/- to 8/-; others, 4/- to 5/-; repacked, 8/- to 9/-. Pineapples, smooth leaf, 10/- to 14/- case, 2/6 to 10/6 doz.; rough 1/6 to 12/- doz., 10/- to 16/- case. Passion Fruit, 14/- to 18/-. Papaws, 2/- to 7/6. Mandarins, 5/- to 24/- case. Oranges, 5/- to 18/-. Special, 18/6 to 20/-. Strawberries, 4/- to 8/- doz. boxes. Mangoes, 9/- to 12/-. Peaches, 6/- to 8/- tray. Plums, 7/-.

TASMANIA.

Hobart, 19/11/27.

Apples.—S.T.P., fair quality, 10/6 to 13/-; spotty and inferior, 4/- to 5/6; Dem., choice 18/- to 19/-; spotty and soft 6/- to 9/-; S.P.M., fair 11/- to 12/-; small, 2/6 to 3/6; S.P., spotty, 4/6 to 5/-; F.C., 4/3 to 7/3. Gooseberries, 4/- to 5/3. Cherries, 15/- to £1, 10/3 half-case.

SOUTH AUSTRALIA.

Adelaide, 19/11/27.

Apples.—Eating, 22/- to 24/- case; cooking, 18/- to 20/- case. Apricots, 24/- case. Bananas (Fiji), 34/- to 36/- crate. Cherries—Dark, 16/- case; light, 12/- case. Gooseberries, 9/- case. Lemons, 26/- to 28/- case. Loquats, 16/- to 18/- case. Almonds, 1/- to 1/3 lb. Peanuts, 14/- doz. lb. Walnuts, 12/- doz. lb. Oranges.—Common, 18/- to 20/- case; Navel, 20/- to 24/- case. Passion Fruit, 60/- case. Pineapples, 25/- case. Strawberries, 8/- to 9/- doz. lb.

NEW ZEALAND.

Dunedin, 11/11/27.

Messrs. Reilly's Central Produce Mart. Ltd. report the market bare of all supplies of Citrus fruit. Local cool store Apples realised 15/- to 17/6 for Sturmers, Delicious 19/-, Californian and Canadian, 22/6 case. Canterbury Pears, 7½d. lb. choice.

Our first consignment of Strawberries arrived, and realised 4/7 per pottle, ½lb. Green Peas are now realising 7½d. per lb. Gooseberries from 6½d. to 7½d. We sold 350 cases of N.S.W. Valencias (to arrive 16th) at 32/6 per dump case.

Victoria

Seasonal Reports and Crop Prospects . . District News and Notes

VICTORIAN FRUIT CROPS.

Seasonable Report to End of October.

Fruit, Except Vines and Citrus.

The Superintendent of Horticulture reports:—

Severe frosts in some districts during the last week in September did some damage to Almonds and Apricots. Apart from Vines these were the only fruits that suffered damage. Fortunately tree fruit districts escaped. Apricots were badly damaged in a portion of the Geelong district, and Almonds suffered most in the Wangaratta district. The present appearance of all classes of fruit excepting those which suffered frost damage indicates a heavy crop.

Very few thrips can be seen, and it is unlikely that any injury will be done by this pest during the present season.

Passion.—Promise fair crop.

Berries of all Kinds.—Indicate good to heavy crops.

Loquats.—Good.

Viticulture.

The most notable event since the issue of last month's report has been the occurrence of disastrous frosts throughout Victoria on the mornings of September 25, 26, and 27.

Mildura has lost about half the sultana crop. Zante currants have in many cases been severely affected, but there will be some recovery from secondary buds. On the sultana, however, these yield no fruit, and the only recovery will be from dormant primary buds that had not yet sprouted. These are few, owing to the excellent budburst.

Gordos, Doradillos, and Walthams, which sprout later, escaped comparatively lightly.

In Swan Hill Shire the damage is of similar nature, though on a somewhat lesser scale, the visitation having been rather less severe.

At Rutherglen, Muscat and Grenache have suffered most as they were more forward, other sorts have largely escaped. The intensity of the cold is shown by the number of buds that had only swelled but scarcely yet burst, that were burnt completely. The damage was so complete that the sprouting of the latent secondary buds is assured without re-pruning being necessary. At Rutherglen Viticultural Station the minimum temperatures in the screen were respectively 29·2deg. on 25th, 30deg. on 26th, and 31deg. on 27th, the ground temperatures would be several degrees lower. The loss in the Rutherglen district will probably be less than 25 per cent. of the expected crop.

September maintained the character for dryness of its predecessors, only 82 points being registered at the Viticultural Station. Since the frost, the weather seems to have undergone a change, and frequent showers have fallen in October. To date over 2½ inches have been recorded at Rutherglen. A continuance of this weather would provide altogether suitable conditions for the development of Downy Mildew. Preventive treatment will very shortly demand attention. The preliminary spray, when the young bunches are at maximum visibility, and before they are more or less hidden by the leaves, should on no account be neglected this season.

Citrus.

There is a heavy blossoming in all varieties of Citrus in all districts, and providing good weather conditions prevail during the next few weeks, the trees should set a heavy crop. Frosts in late September have done but little damage to Citrus trees. Navel Oranges are being marketed with good prices. Valencia Late Oranges are now coming on the market. Lemons are keeping a good price, and should improve.

The prices obtained for Oranges have been good throughout the season, but have varied from 10/- to 18/- per bushel case, according to the quality of the fruit, the better class of fruit, of course, being sold for the higher prices.

NOTES FROM PORTLAND.

The chief fruit grown here is the Apple. Jonathans predominate to a very large extent; Romes follow, and then in lesser numbers, Crowns, Sturmers, Hoovers, Rokewoods.

F. W. Vear

Fruit & Vegetable Salesman

Commission Agent

WESTERN MARKET
MELBOURNE, VIC.

Highest Market Rates Assured

Prompt Settlements

There is every prospect of a very heavy crop of first-class Apples. There has been abundant rain, calm weather and sunny, no hail or rough winds. Had orchardists had the arranging of their needs they could not have been better pleased. There is every prospect of the local cool store running to its full capacity.

Consideration is being given by the store for making provision for Apples for export to be graded and packed at the store under strict supervision.

We are not much troubled with moth; it is easily kept under by spraying. It is later in its operations than in many other places. There is in increasing acreage each year being put under Tomatoes and vegetables, for which a ready market has been obtained.

COVENT GARDEN,
LONDON

**Ridley, Houlding
& CO.,**

Large Receivers of Australian
Fruits.

Solicit Consignments of
Apples, Pears, &c.,

Best market prices and prompt
account sales returned.

Correspondence invited.

Representative in Victoria

THE

International Fruit & Mercantile Co.,

410 Flinders Lane, Melbourne

MURDOCH BROS., Hobart

Apricot Scab is showing up in many of the Goulburn Valley orchards, where the setting of this fruit has been medium. Spraying is being generally carried out to control this disease, as it is recognised that the season favours its development.

Briefly, the prospects of the yield of the different kinds of fruit are as follow:—

Apples.—Good to heavy, Black Spot not yet showing to any extent.

Pears.—Good. Black Spot not yet showing to any extent.

Peaches.—Good. Clings heavy.

Apricots.—Light to medium.

Plums.—Good.

Cherries.—Early, medium; others, good.

Almonds.—Light to fair.

Quinces.—Good.

VICTORIAN FRUIT COUNCIL.

A MEETING of the Victorian Fruit Council was held in Melbourne on October 28, Mr. J. H. Lang presiding. In addition to representatives of the Northern Victorian Fruitgrowers', Metropolitan Fruitgrowers', and Apple and Pear Growers' Associations, Mr. D. G. Wills, Sydney Market Representative of the Northern Growers, attended by invitation, to discuss the question of representing the Apple and Pear Growers on the Sydney and Brisbane markets.

Mr. Wills stated that a small quantity of fruit was sent to Brisbane under his organization the season before last, but owing to an alteration in the freight rates after he had made his proposition, the savings were not as great as had been expected. Brisbane agents had been in the habit of getting their supplies haphazard. Experience in Sydney showed that it was better to know beforehand what was coming, when they could forecast the market several days ahead. Transport was the first essential towards success in marketing.

In regard to the actual services rendered, all fruit was consigned to Mr. Wills, and information was sent on from Albury, so that he knew exactly what was on the train. He accepted the financial responsibility, and had a cash guarantee with the railways; freight accounts sometimes reached £2,000 to £3,000 a week. He paid for proved shortages, making a charge of 7d. per ton to cover losses. The grower had no responsibility after he had put his fruit on the train. On arrival at the market the fruit might be inspected, and sometimes reports were sent to the grower. When errors in regard to transport occurred which the grower should know immediately, he was written to or wired at once. For the last two years reports were broadcast daily, giving the fair average price ruling for fruit in the market that day. Mr. Wills acted in the capacity of adviser to growers in regard to agents, collecting account sales, rectifying errors in account sales, etc. Since roller conveyors were introduced at Albury (at Mr. Wills' suggestion), one-third of the labour, cost, and time in transshipping was saved, and 90 per cent. of the breakages avoided. Broken cases were put aside and nailed up, from 10 to 60 cases a day being repaired; consequently only about 1 case in 5,000 arrived broken in Sydney.

In reply to questions, Mr. Wills stated that if 75 tons were provided for bulk loading, a special fruit train

would be sent through to Brisbane, saving freight, saving a day in time, and avoiding shunting. It might be possible to arrange for bulk loadings from Melbourne. New South Wales and Queensland had tested the system and found it profitable. Apples sent from Melbourne could be bulked with the Goulburn Valley fruits from Albury to Sydney any time during the season for these fruits.

Representatives of the Northern Association said they found Mr. Wills' scheme gave them absolute satisfaction, and value for their money. They would not go back to the old system. Mr. Wills was thanked for his attendance, and the matter deferred for further consideration.

Motor Taxation.—Mr. Lang reported that country branches of the Automobile Club favored a tyre tax, and the committee was watching the matter.

Sectional Affiliation.—A letter was received from the V.C.C.A. suggesting that the council utilise its officers and organisation for executive work. After discussion, Messrs. Lang, Finlay and Thomas were appointed a committee to go into the matter with the V.C.C.A.

The Australian Dried Fruits Association replied that the matter of affiliation would be brought before their board.

Removal of Western Market.—Supporting a request from the V.C.C.A. a resolution was carried, protesting to the Minister for Agriculture against the delay in removing the Western Market.

Amending the Seed Act.—Mr. J. M. Mitchell (Metropolitan) moved that

the council request that the Seed Advances Act be amended to provide for advances to all primary producers. This was necessary in the case of losses, such as last season's, in order that fruitgrowers might have the same right as grain growers to Government advances under the Act. The motion was seconded by Mr. McDonald, and carried.

Duty on Crude Oil.—Mr. R. M. Finlay reported that the Metropolitan section had gone very thoroughly into this matter with the Minister for Customs, who had decided that there would be no reduction of duty while spray oil from shale was being produced in Australia.

Northern growers stated that they got better results from the prepared spraying oils. Their Association had the matter in hand, and would report in due course.

Duty on Cases.—Letters were received from the V.C.C.A. and the Fruitgrowers' Federation of N.S.W. requesting support in opposing any increase in duty on fruit case shooks, which, it was stated, would be very detrimental to the industry. A resolution in support was carried at the instance of Messrs. Blackburn and Finlay.

44 Hours' Week.—Mr. Young (Northern) reported that the A.W.U. had lodged a claim to be included in the 44-hours' week. Fruitgrowers would probably have to fight this claim, as it was a vital matter to the industry. The fruit had to be picked when it was ready, and it simply meant an increase of 12½ per cent. in wages, which could not be passed on to the public.

C. A. NOBELIUS & SONS Pty. Ltd.

Growers of First-class
FRUIT TREES
ORNAMENTALS
Etc.

Retail Price List printed 1st March. Write for a Copy

Gembrook Nurseries - - Emerald, Victoria

'Phone Box Hill 154.

Telegrams: Nobelius, Box Hill 154.

In reply to a question, Mr. Lang stated that the Rural Producers' Defence Fund had been raised to fight cases in the Arbitration Court, in which primary producers were interested, but only a small proportion had been contributed by fruitgrowers. So far the only money expended out of this fund had been drawn by fruitgrowers, no other section of primary producers having been cited. Quoting from the balance sheet, he stated that the fund had a credit balance of £2,727, the expenditure for the last year being only £65, of which £35 was a grant to the Victorian Fruitgrowers' Central Association.

Mr. Blackburn, stating that if the fruitgrowers were beaten on this claim, it would affect all primary producers, moved that the cost of contesting the claim be met from the Rural Defence Fund, seconded by Mr. Young, and carried.

Victoria Market.—Mr. Mitchell stated that the rule that fruit and vegetables could not be sold from the same stall adversely affected all the growers in the Wandin district. It was decided to get in touch with the Markets Committee, asking if the rule could be varied, and also asking that fruitgrowers should have direct representation on the committee controlling the markets.

The meeting then closed.

SOMERVILLE SHOW.

The annual show of the Somerville Fruitgrowers' Horticultural and Agricultural Association will be held at Somerville, Victoria, on March 14, 1928.

V.C.C.A. MARKET REPORT.

The Victorian Central Citrus Association supplies the following report of the Melbourne market for the week ending 18/11/27:—

There was a gradual improvement in the tone of the Citrus market throughout the week, more especially for Lemons. Practically all stocks of first quality Valencias that came to hand were disposed of readily. A fair amount also on hand at cool stores was sold to advantage. Medium quality fruit is still slow of sale. We do not anticipate any improvement in values for this class of Orange for some time to come, and advise growers to hold all lines as long as possible.

The following prices were obtained during the latter part of the week:—Valencias—"A" district special, 18/- to 23/-; "B" district special, 15/- to 19/-; "C" district special, 10/- to 14/-; Standard, 1/- lower. Lemons.—14/- to 17/-, few extra higher.

MR. BRITTLEBANK'S SERVICES.

To be Retained for Six Months.

Following a deputation from the Nurserymen and Seedsmen's Association, the Metropolitan Fruitgrowers' Association, and the Victorian Flower Growers' Association, which waited on the Minister for Agriculture on November 8, the State Cabinet has decided to retain for six months the services of Mr. C. C. Brittlebank, Biologist and Plant Pathologist of the Victorian Department of Agriculture, who has reached the retiring age.

The deputation asked for the retention of Mr. Brittlebank's services for five years.

RED HILL PROSPECTS.

The principal fruits grown are:—Apples, chiefly Jonathan, Rome Beauty and Five Crown. All varieties promise very heavy crops.

Strawberries are also grown, and promise very well. Apparently the fruit will be very clean. —Airedale Orchards, Red Hill.

Per G. W. Brown.

NOTES FROM DROUIN.

The principal fruits grown are:—Apples (Jonathan, Five Crown, Rome Beauty, Rokewood, Yates). Apples set heavily, but there is a heavy fall. The crops this season will be heavier than last. There are about 300 acres under fruit in the district. Orchards generally are free from fungous and insect pests.—K. R. Grant, Drouin, 16/11/27.

"VALLO" AUSTRALIAN SPRAYS.

For making Bordeaux Mixture, growers often experience difficulty in obtaining suitable ingredients in a convenient form. Messrs. A. Victor Leggo & Co. are now offering all the necessary ingredients, in handy sized packets, for making in a few minutes a perfect home-made Bordeaux, without the cumbersome work of slaking lime and the tedious process of dissolving bluestone and spreader.

"Vallo" Brand Home-made Bordeaux is specially prepared for Bitter Rot, Curl Leaf on Peach trees, Shot Hole and Scab on Apricots, also for Black Spot in Apples and Pears, and Downy Mildew on vines. It is also suitable for spraying ornamental trees. It is put up in two strengths to conform to the usual formulae: 6-4-40 or 6-4-50 (in blue cartons—this is generally used for autumn or delayed dormant spraying); and 4-4-40 or 4-4-50 (in pink cartons—used at the "pinking" stage). A table works out the cost per gallon of spray solution at various strengths as from .9d. to under 2d. per gallon.

Another spray manufactured by Messrs. A. Victor Leggo & Co. is "Vallo" Nicotine Sulphate. This is made in Australia from Australian-grown tobacco, and is guaranteed to contain 40 per cent. nicotine. It has been tested by the N.S.W. and Victorian Governments, who are now ordering the Australian-made article in preference to imported sprays. "Vallo" Nicotine Sulphate is put up in convenient quantities, and is a safeguard against excessive prices for the imported article. Remember, by purchasing the Australian-made spray, you are giving work to Australians who buy your fruit.

Here at Last!

PATERSON'S CONCENTRATED "CLENSEL"

British Product.

Insecticide and Fungus Destroyer

The only combination Spray in the World.

The Spray that has achieved Remarkable Results throughout England and India.

Write for Particulars of Results of Tests by Australian Fruitgrowers.

Once Tried Always Used.

Eradicates on contact Red Spider, Scale, Thrips, Curly Leaf, Green Fly, Black Rot, Mildew, etc.

Non-poisonous. Non-injurious to trees or foliage.

"CLENSEL" can be used any time of the year.

Easily mixed. No other spraying solutions to be added. Badly infected orchards can be effectively cleaned with two applications of CLENSEL.

Further particulars from—

BRUCE ANDERSON — CLENSEL (Aust.) AGENTS
56 Hardware Street, Melbourne

FIGHTING INSECT PESTS IN THE ORCHARD.

The Bryobia Mite and Red Spider.

These mites are exceedingly numerous during the warm and hot weather. They attack all kinds of fruit trees, especially Apples. The leaves attacked have a peculiarly speckled appearance, owing to the rupture of their cells. Spray with tobacco water, nicotine sulphate, benzole emulsion, or black-leaf 40. Spray underside of leaves. Use misty spray.

Red, Olive, San Jose, and Mussel Scales.

The young scales are now moving. Spray with nicotine sulphate, black-leaf 40 or benzole emulsion. Phenyle spray is also recommended.

Painted Apple Moth.

The caterpillars of this most destructive moth are common at the present time on fruit trees. They are from an inch to an inch and a quarter in length when full grown, and densely covered with tufts of hairs. To prevent the moths from depositing their eggs on the leaves of the trees spray with benzole emulsion 1 in 5. When caterpillars are on trees spray with arsenate of lead 1 in 25. Thoroughly spray underside of leaves also.

Woolly Aphis or American Blight.

The Aphelinus parasites should be placed on affected trees at once, as the wasps are now hatching.

Light-brown Apple Moth.

The active green caterpillars of this moth are now very numerous in orchards. They often eat holes in the young fruit, causing a fair amount of damage. When observed spray the

trees with arsenate of lead 1 lb. to 25 gal. of water.

Pear and Cherry Slug.

This is a serious insect pest of the Pear and Cherry in Victoria. It also attacks the Plum and Quince, and is occasionally seen on the Apple and Almond. Pear trees attacked by it frequently lose their entire crop of leaves. The larvae (blackish, slimy objects) eat the epidermis from the leaves; these soon shrivel up and drop. Spray with arsenate of lead. If the fruit is ripening use Hellebore, either as a dust or as a spray. The slugs may also be destroyed by dusting lime, soot, ashes or dry sand on them.

Apple Root Borer.

The perfect insects are now in fair numbers on Apple, Pear, and Cherry trees. Spray at once with arsenate of lead 1 in 20. Spread an old piece of blanket under the trees, and tapping the tree sharply will cause all Borers to drop. Gather up beetles and destroy at once.

Codlin Moth, Pear Leaf, Blister Mite, and Citrus Thrips.

See "The Fruit World" Nov. 1, 1927, p. 477.

Thrips.

These most destructive insects are now making their appearance, but, as most of the fruit has set, it is not anticipated that any appreciable damage will be caused this season.

Cutworm Caterpillars.

This season is a particularly bad one for cutworm caterpillars. They are causing quite a lot of damage to young fruits of all kinds. Young Apples and Apricots have been very badly attacked by them. It is advis-

able to spray the trees at once with arsenate of lead 1 in 20. Cutworms often travel from tree to tree, so it is advisable to put out poisoned baits to destroy them. The Dept. of Agriculture (Science Branch) has issued a pamphlet on Cutworms and remedial measures for same. This pamphlet is obtainable free on application.

Rutherglen Bug.

These destructive plant bugs have made their appearance in orchards. For remedial measures see "The Fruit World," Nov. 1, 1927, p. 477.

Citrus Aphids.

The young shoots of Citrus trees are being attacked by myriads of Citrus Aphids. These insects suck out the sap from the young growths, which turn black and die back. Use tobacco (nicotine) sprays.

Peach Aphids (Green and Black).

The present season is one of the worst we have had for some years for Peach Aphids. Some small trees have almost been destroyed by them. When once the leaves are curled and the Aphids are inside it is a difficult matter to get the spray to reach them. It requires the spray to be well forced amongst the leaves, so that it will reach the insects which are hiding amongst them. Use nicotine sulphate or black-leaf 40. For further particulars regarding these insects see "The Fruit World," Nov. 1, 1927, p. 477.

A massive steel press exerting a pressure of 800 tons to the square inch is employed to shape fenders at the plant of the Ford Motor Company of Canada Limited, Ford, Ontario.

"Harvey" Grape & Berry Hoe

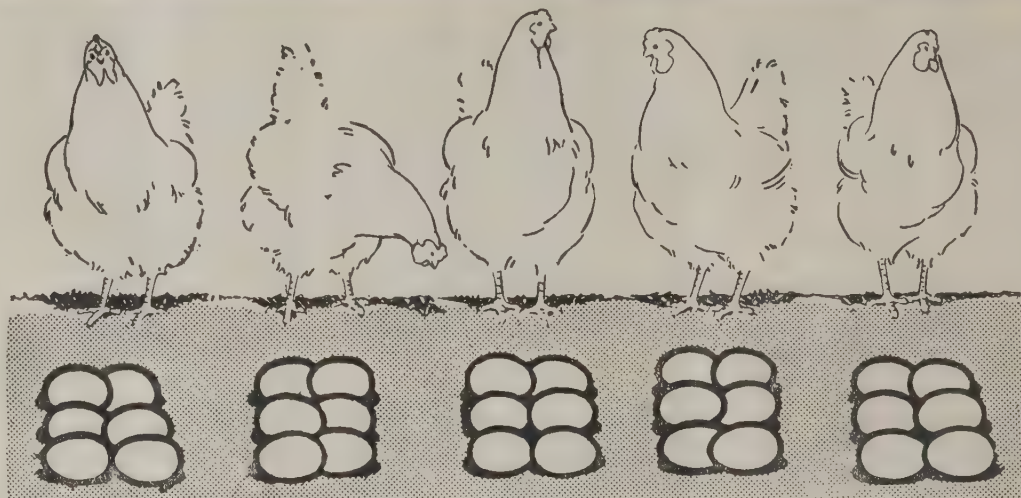
SHOWING EXTRA ATTACHMENTS



This Grape Hoe is not only the greatest labor-saver ever offered to the fruit farmer in the cultivation of grapes and berries, but in orchards of peach, plum, and small trees of every kind it is a wonder. It will cultivate close up to the vine or tree without injuring either, and by reversing the blade the earth can be thrown up against the vine or trees as desired. It will do the work of at least ten men, and earn its cost in a short time. We have also a Skimmer Blade Attachment and a 5-Tyne Cultivating Attachment, which can be fitted to the Grape Hoe, and takes the place of the hoe for cultivating close up to the trees, vines, etc.

D. HARVEY, Whitehorse Road, Box Hill, Vic.

AGENTS
ALL STATES



Don't make Xmas dinner of your fowls because they're not laying.

IT is poor satisfaction, after feeding fowls for some considerable time in the hope of getting eggs, to comfort yourself with the thought that they'll be nice for Xmas. Many a feathered Biddy with all the potentialities for prolific laying has gone to the pot because she has been misunderstood. Because of her temporary cessation of laying she has been dubbed a loafer—probably worse things have been said. Often in these circumstances the desire to make a Xmas dinner of the fowl is a sad mistake. The bird has simply been unable to lay because the feeding is not right. Instead of trying to stimulate satisfaction by thinking of your Fowls in terms of the good things for Xmas and

New Year, try giving them Karswood Poultry Spice. "Karswood" contains dried and ground insects—nature's best medium of assimilable phosphorous—and supplies to fowls just that "something" which enables them to keep on with regular laying. If you start giving "Karswood" at once, you'll probably be using the eggs from your fowls for Xmas purposes instead of having the fowls themselves for Xmas or New Year's dinners. We want to be quite frank, that is why we said "probably." "Karswood" works naturally. It does not force, but takes about a fortnight to show results. Anyway make the test. A one shilling packet is sufficient for 20 birds for 16 days.

Big eggs and more of them

Dear Sir,—

Please forward me four packets of Karswood Poultry Spice—the pound packets, I think they are. I used it last year, and I got some from you for my neighbours, and they all say it is very good. I was a bit afraid at first that it might do the hens harm, but it does not seem to hurt them—it makes them lay big eggs and more of them.

Yours faithfully,

(Sgd.) T. J. SHARPLESS.

Box 15, Manildra.

Make this test

Go to your local grocer, storekeeper, or produce dealer. Get a 1/- packet of Karswood Poultry

Spice, then give it to half-a-dozen of your birds, in accordance with the directions on the packet. Do not expect immediate results; Karswood works naturally, not suddenly. It takes at least a fortnight to produce results, but they are good and sure.

Note the economy

1/- Packet supplies 20 hens for 16 days.

2/- Packet supplies 20 hens for 32 days.

13/- (7lb. Tin) supplies 140 hens for 32 days.

Supplies

Karswood Poultry Spice is obtainable from all wholesalers and stores at the following standard retail prices:— $\frac{1}{2}$ lb. packet, price 1/-; 1lb. packet, price 2/-; 7lb. Tin, 13/-; 14lb. Tin, 25/-; 28lb. Tin, 48/-.

Poultry and Beekeeping



POULTRY.

Apportioning the Ration.

Value of Correct Weights and Measures.

Not too many progressive poultry-farmers these days are unacquainted with what it is best to feed to poultry, but a good many lack the knowledge, or do not appreciate, the value of correct weights and measures in making up the daily ration. This is probably one of the most unsatisfactory features of feeding poultry, and one which is a fruitful cause of trouble on many farms. The kerosene tin and dipper (the latter of various sizes) are the utensils usually in use for proportioning the different ingredients which go to make the ration, and particularly the morning mash.

The kerosene tin is the measure most frequently used, as well as the common conveyor of poultry food on the farm. A tinful will weigh net, without the tin, approximately as follows:—Pollard, 18 lb.; bran, 12 lb.; lucerne meal, 12 lb.; wheat (whole), 30 lb.; maize (whole), 28 lb.; maize (cracked), 25 lb.

A Handy Table.

Even when scales are available on the poultry-farm they are very seldom used because of the time taken in weighing out the different ingredients. It is much quicker to scoop out the pollard, bran, grain, or whatever it might be, in a measure, and provided the weight the measure holds is known, this method of mixing the ration is fairly accurate. The quart measure is a handy size, and the following table shows the approximate weight per quart (quart measure filled but not pressed down) of the main ingredients in use on a poultry-farm:—

	lb. oz.
Wheat meal	1 8
Pollard	1 0
Bran.	0 8
Lucerne meal	0 8
Oatmeal	1 0
Barley meal	1 8
Maize meal	1 8
Linseed meal	1 0

Wheat (whole)	2 0
Maize (whole)	1 12
Peas (whole)	1 12
M.I.B. meat meal	1 8
M.I.B. compo meal	1 8
M.I.B. bone meal	1 12
Common salt (fine)	2 0
Flowers of sulphur	1 4
Epsom salts	1 12

HONEY PLANTS AND SHRUBS.

(By "Loray," in the "Tasmanian Fruitgrower and Farmer.")

A correspondent asks the following question:—Can you supply a list of flowers, shrubs and creepers suitable for bee culture, to supply the best honey-making substance used by the bee? The subject is an interesting one, but it is also one on which there does not appear to be very much data, so far as local or Tasmanian conditions are concerned. I assume that the correspondent has in view the layout of a garden that will materially assist in beekeeping and in this respect I am sorry to say that although many flowers and shrubs in a garden would be of some use to the bees I do not think they would provide what all beekeepers aim at securing, namely, a good surplus of honey over and above the requirements for the hive.

My last copy of Root's "ABC and XYZ of Beekeeping" says:—"Many a beginner in beekeeping has fondly imagined that his flower garden would supply his bees with a rich harvest, wholly unconscious that the gaudy exotics of cultivation are often nearly or quite nectarless."

The two most important substances gathered by the bees are undoubtedly nectar and pollen. Nectar is honey in its raw or unripened state, and without pollen, brood rearing cannot go on. Some of the plants or trees contain both nectar and pollen, others can perhaps be better ranged under one or the other heading. The Alder, Ash, Beech, Elm, Linden Walnut, Willow, and other imported trees are good pollen bearers, and so is the California Poppy, and in fact all the poppy family are. The Rose is probably the most handsome plant in the

garden, but for the bee it is solely a pollen plant, and the same may be said of the common briar Rose that grows in such profusion in many parts of Tasmania. The silver and the black Wattle are also excellent for pollen. The common gorse, which is unfortunately all too plentiful in parts of this State yields pollen, and in warmer parts a certain amount of nectar as well, but I only notice it as a pollen plant. So far as the Acacia or Wattle is concerned there are about 300 species in Australia, and 150 in other parts of the world. Most of these are noted for pollen only, but a few produce a little nectar.

The honey-producing plants are innumerable, but I cannot name one that is profitable to grow to beautify a garden, and at the same time to provide substantial fodder for the bees. Most of our fruit trees yield an acceptable supply, and Apples, Pears, Raspberries, Currants, Loganberries, and Gooseberries are all useful, and in some cases provide a small surplus. So far as garden flowers are concerned I might mention Cornflowers, Forget-me-not, Holly-hock, Pin Cushion, Verbena, single Stock, and there are, of course, hosts of others. The writer once saw a fairly large kitchen garden, the beds of which were bordered with Thyme, and there was no doubt that the bees thoroughly appreciated it.

But our wild flowers and trees are what we have to look to. The Eucalyptus, Dandelion, Box, Leatherwood, Blackberry and others, supply the bulk of our surplus. Lucerne and Clover are of immense importance in other parts of the world, and should be of greater importance here. I really think that if anyone is to successfully cultivate a honey plant it must be for a dual purpose; that is for nectar and also forage for stock. There seems to be no doubt that no group or family of plants yield more or better honey than the Clover. Even in this country, where Clover is grown in limited quantities, its influence on the honey crop is usually most marked. In suitable seasons a good deal of nectar is gathered from the white Clover that grows along the sides of our roads and streets.

Lime plays a prominent part in the growth of Clover, and it is safe to say that where the most lime is being used by the farmer there is the place where a beekeeper has a chance to flourish. It must, however, be remembered that seasons vary, and plants do not always give the same results in different localities. Much bloom may result in but little honey, and again little bloom may produce a good crop. If the person who raised the

point of the possibility of providing bee forage has the means for so doing it would be interesting to try a small crop of Alsike Clover. This is spoken of as one of the best of the honey-producing plants, and in some places in America beekeepers actually provide the seed free of cost for the farmers to sow. After Alsike has once been introduced it is self-sowing, and springs up where other Clovers fail to make a satisfactory growth. As a forage plant it is equal to or superior to Red Clover or Timothy, producing a large flow of very rich milk.

TRY THIS ON THE STARLINGS.

Wonderful thing this "wireless"! A short time ago it was hailed as a certain cure for deafness; then when the novelty of the idea had worn off an ingenious chap discovered that it made Beans grow as they'd never grown before (in his imagination), and now, as we're getting to the end of that phase, comes the intimation that as a bird-scarer it is unequalled. The following is from Edinburgh, so there must be something in it:—

Novel Use of Wireless.

Sir,—It might interest your readers to learn that in Denmark, the country of agriculture par excellence, the

owner of a large fruit garden has hit upon a novel idea for keeping the birds away from his Cherries and Strawberries.

For a long time scores of black-birds, starlings, and sparrows used to settle in his fields, and neither scarecrows, streamers, nor rattles would keep the birds away, and year after year he had the same trouble.

This season, however, he placed a loud speaker in one of the highest Cherry trees, and with the help of a four-lamp apparatus, set it going. The effect was immediately noticeable, not a minute after the loud speaker had begun, the birds were all away; even the blackbirds—which are the most difficult to chase—had disappeared, and no matter what the programme was—"a market report," "a children's concert," or "A lecture"—the birds did not come back, and even the gardens in the neighbourhood benefited by it.

It seems astonishing, and it would be interesting to know if anyone in this country has had a similar experience. Can it be possible that, likewise as the sound is carried by waves through the air to the wireless instrument, when the same sound leaves the loud speaker it disturbs the air to a greater extent than any human being can hear, although the birds

may possibly feel it, and thus keep away?—I am, etc., A. T. MOLLER.

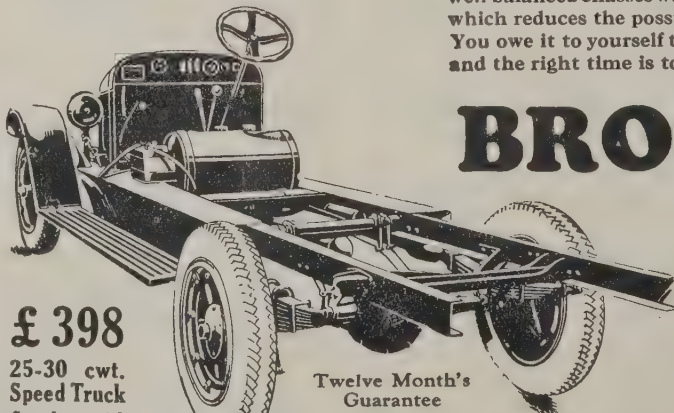
The reference to a "four-lamp apparatus" indicates, I think, rather a superficial knowledge of the subject, but that perhaps is due to the language. And the fright of the birds may also be due to the same cause. One has to take a lot for granted in stories of this kind.—"Nurseryman & Seedsman."

RHUBARB JUICE.

A new use for rhubarb is disclosed to travellers on the El Monte highway towards Los Angeles, where a rhubarb grower has set up his retail stand to sell all the rhubarb he can sell fresh. The surplus is crushed like any other fruit, and the juice is retailed by the glass or at 75 cents. per gallon. The juice is remarkably refreshing on a hot day, and has a unique and satisfactory taste when sweetened with honey as this man does. The particular juice sampled by the writer had a distinct wild cherry phosphate flavour. It keeps well on ice for a week or two, but is likely to get "hard" after that, especially if exposed to warmer temperatures.—"Pacific Rural Press."

It takes new ideas to make progress. Contribute some idea that has helped you and give your fellow members the benefit of your experience.

... the truth about Truck economy



£ 398

25-30 cwt. Speed Truck
Complete with 5 Tyres and Spare Rim.

Twelve Month's Guarantee

LOW initial price is sometimes mighty tempting to those not acquainted with Truck values. But experienced Truck owners know that good Trucks cost much less per ton-mile, per month and per year. This is true economy. The "Brockway" 25-30cwt. and 30-35 cwt. speed Trucks are the ideal combination of sturdiness and easy riding, of economy and dependability, of speed with safety. They are specially adapted to the Orchardist's requirements. The well balanced chasses with low centre of gravity gives low cushioning which reduces the possibility of damage to goods to a minimum. You owe it to yourself to investigate the "Brockway" line of Trucks and the right time is to-day---NOW.

BROCKWAY

Speed Trucks : 25-30cwt. and 30-35cwt. Heavy duty models, 2-ton, 3-ton, 4-ton, 5-ton and 6-ton. Make a point of seeing the new model "Brockways" before you purchase any other Truck.

Ronaldson Bros. & Tippet Pty. Ltd.

Showroom 630a BOURKE STREET, MELBOURNE
SERVICE STATION : 527 SPENCER STREET MELBOURNE.

Census of Victorian Fruit Trees.

In recent issues of the "Fruit World" reference has been made to the valuable "Census of the Fruit Trees of Victoria," compiled by the Government Statist under instructions from the Minister for Agriculture. Summaries have been given of the total numbers of trees of the principal fruits grown, and, in some cases details of the leading varieties.

Below are given the figures relating to the most popular varieties of Quinces and Citrus Fruits. Other figures will be published from time to time. B stands for bearing. N.B. for non-bearing.

Quinces.			
Variety.	B.	N.B.	Total.
Apple	27,950	4,966	32,916
Large Portugal	6,233	3,085	9,318
Pear-shaped	19,264	2,740	22,004
Other varieties	24,503	4,942	29,445
Total	77,950	15,733	93,683

Oranges.			
Variety.	B.	N.B.	Total.
Blood (varieties)	1,600	1,380	2,980
Golden Nugget, Navel . . .	1,530	1,526	3,056
Jaffa	1,893	2,048	3,941
Joppa	2,066	2,132	4,198
Mediterranean Sweet . . .	10,011	9,390	19,401
Navalencia	5,621	6,305	11,926
Seville	6,661	2,034	8,695
St. Michael	4,212	2,436	6,648
The Queen	5,333	1,037	6,370
Thompson's Improved			
Navel	7,929	2,651	10,578
Valencia Late	67,902	70,995	138,897
Washington Navel	198,363	130,728	329,091
White Siletta	1,130	2,071	3,201
Other varieties	6,259	3,110	9,369
Total	320,508	237,843	558,351

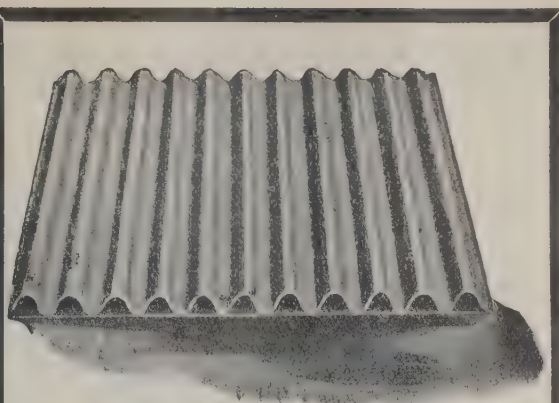
Mandarins.			
Variety.	B.	N.B.	Total.
Beauty of Glen Retreat . .	3,747	5,215	8,962
Emperor	12,029	13,534	25,563
Satsuma	137	144	281
Scarlet	484	237	721
Thorny	447	1,352	1,799
Other varieties	938	1,385	2,323
Total	17,782	21,867	39,639

Lemons.			
Variety.	B.	N.B.	Total.
Eureka	34,153	24,781	58,934
Lisbon	89,629	37,775	127,404
Sweet Rind	1,121	564	1,685
Villa Franca	1,944	564	2,508
Other varieties	3,787	1,197	4,984
Total	130,634	64,881	195,515

Limes.			
Variety.	B.	N.B.	Total.
Total	360	58	418

Grape Fruit.			
Marsh's Seedless	1,017	5,306	6,323
Other varieties	580	653	1,233
Total	1,597	5,959	7,556

Pomelo-Shaddocks.			
Total	350	114	464



Corrugated Strawboard Liners for Fruit Cases

A Safe Insurance Against
BRUISED FRUIT

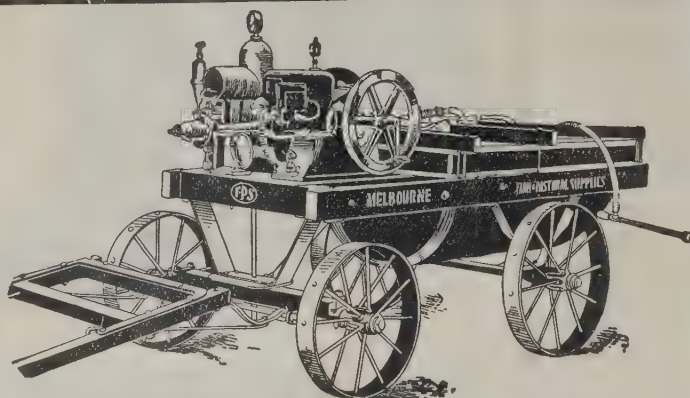


CORRUGATED CASES
SUITABLE FOR FRUIT PACKING

Full particulars on application to

J. Fielding & Co. Ltd.
Buckingham and Chalmers Sts.
SYDNEY, N.S.W.

THE NEW HERCULES SPRAYER



The Machine that has been adopted by the leading Orchardists of Victoria, and proclaimed by them to be the most efficient and reliable Orchard Sprayer obtainable. Supplied with 1½, 2½ or 3½ b.h.p. HERCULES Engine, geared direct to Metters' Double-acting Power Pump. Built also on two-wheel transport. Write at once for particulars, or apply for a free demonstration in your own orchard.

THE FARM & PASTORAL SUPPLIES
PTY. LTD.
Machinery Merchants,
500 BOURKE STREET, MELBOURNE

NEW USE FOR DISCARDED AUTO.

A new use has been found for the used automobile on the farm. Horticulturists of the Ohio Agricultural Experiment Station wished to make experiments in dusting Apple and Peach trees on the Belmont County Experiment Farm for the control of insects and diseases, says "Canadian Horticulture." Power to run the dusting machine was lacking. A discarded light automobile that still contained a good engine was pressed into service, and now is furnishing the necessary power.

The used automobile was stripped down to the frame, leaving only the steering column with gasoline and spark control. The tongue was attached and connected with the steering rod. A team can easily haul the outfit as the wheels are on roller bearings throughout.

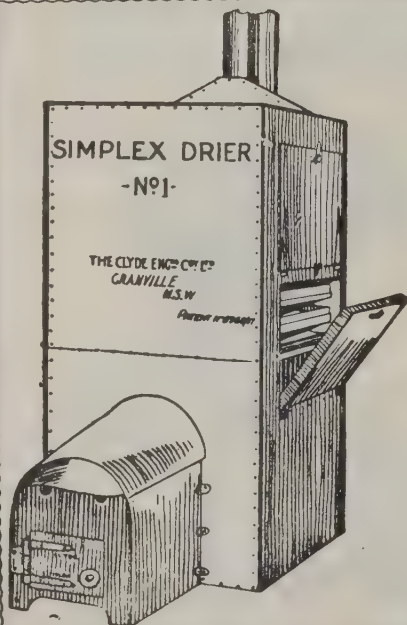
A self-mixing duster was placed upright on heavy planks across the back of the frame. Power take-off was arranged by belting around a pulley attached back of the transmission in place of the regular drive shaft and run at right angles over idler pulleys to the duster.

Two men operate this duster outfit. One drives the team and works the

The Clyde Simplex Driers

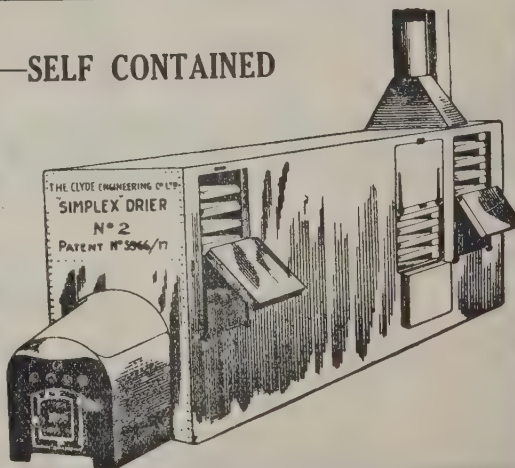
For Drying
Fruit, Vegetables and other Products

NO MORE WASTE FRUIT OR VEGETABLES



SIMPLE — SELF CONTAINED

Made in Sizes to suit
Householders
Small Orchardists
OF
Large Factories



The Clyde Engineering Co. Ltd.
GRANVILLE, N.S.W.

clutch and gears, much as an automobile, the other directs the dust on the trees.

With this outfit the orchard was given the protective covering against insects and diseases six or eight times as fast as by using a liquid spray. This means, says I. P. Lewis, Assistant in Horticulture in charge of the Belmont County Experimental orchards, that a grower with this outfit can dust as much orchard in a day as it formerly took him a week to spray. The outfit will be exhibited in connection with the spraying and dusting experiments on orchard day at the farm late in the summer.

RINGING LOAFER APPLE TREES.

By C. L. Burkholder, Purdue University, in the "American Fruitgrower Magazine."

The oldest literature on the subject of Apple growing discusses methods of pruning which were supposed to make the trees more fruitful. Some of our present commercial varieties of fruit, such as the Black Twig, Northern Spy, and Baldwin, are very slow to come into bearing. Any practice which would hasten the fruitful period of such varieties or any others with that tendency would be welcomed.

For the past several years, the Ohio Experiment Station has been experimenting with girdling in a young Baldwin orchard, and so far the results have indicated a much increased yield with little injury to any of the trees. The trees worked on were about 10 years old and were in a vigorous, unfruitful condition. About one-third of the main scaffold branches on each tree were girdled three or four weeks after bloom. A strip of bark one-quarter inch wide was removed completely around the limb near the crotch, and the wound was immediately covered with tyre tape or waxed strips of cloth.

The ringed limbs averaged better than one bushel of fruit apiece, while the unringed portions of the tree produced neither blossoms nor fruit. It is important to cover the ringed areas as soon as the work is done, and to see to it that the tape or cloth does not push down against the bottom of the cut. It is also best to ring not more than half the scaffold limbs of each tree any one season. This work is still in the experimental stage, but the method is well worth trying in a small way by any grower having this type of trees in his orchard.

PRUNING APPLE TREES.

For a number of years fruit specialists at the New York Agricultural Experiment Station at Geneva, have conducted pruning experiments with Apples, and have accumulated much information on the subject. According to these experts, Apple trees require comparatively little pruning to secure the best results, while training the tree to a low-headed habit of growth is said to have decided advantages over the system that results in high-headed trees.

The comparison of little and much pruning was made with trees all headed about two feet above the ground when set out in the orchard. After the tree is started, little pruning will later produce a tree with a larger head, having a greater bearing area, with less effort on the part of the orchardist, than will much pruning, say the specialists. This condition developed in about 10 years in the station experiments, and the trees maintained equally as good a shape and symmetry. This experience applied to most commercial varieties of Apples.

With regard to high and low headed of Apple trees the station workers

found that the root systems of the low-headed trees were more firmly established in the soil. Such trees thus offered greater resistance to the wind than did high-headed trees. This should be an important advantage, especially in exposed locations.

The low-headed trees were also much larger and stockier in the trunks and branches, and had larger heads, with a greater bearing area than did the high-headed trees.

[Trees in America are usually planted on rich soils, and may do well with light pruning; but in Australia generally this would not apply.—Ed.]

"Since I bought a car I don't have to walk to the bank to make my deposits."

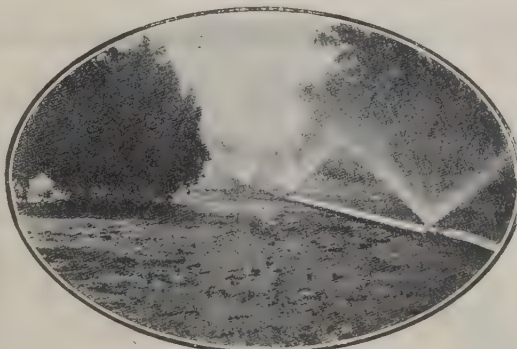
"Ah, you ride there now?"

"No, I don't make any deposit."

PATENTS
GEORGE A. U'REN
PATENT ATTORNEY
"HENTY HOUSE," 499 LITTLE COLLINS ST.
MELBOURNE.

Pope's New Irrigation System

Pat. Nos. 9127/22 & 21419/25



The **LATEST**,
CHEAPEST, and
BEST, for **FRUIT**,
FODDER and
VEGETABLE
CROPS.

(See descriptive
matter in October
issue.)

One of many tes-
timonials:

Pope Sprinkler Co., Croydon,
Gentlemen,

Having used your irrigation system on my Orange Orchard for two seasons, I consider it the most effective method of orchard irrigation I have yet heard of. The output from the pump delivering eleven thousand gallons per hour, at thirty pounds pressure, is comfortably handled by one man without the necessity of any stop during the day, and by allowing the pump to run for an hour after he leaves work, I get ten hours pumping, or one hundred and ten thousand gallons of water applied for eight hours' work, and an absolutely even distribution of the water as well, in addition to effecting a great saving in labor.

Needless to say, I should not like to have to return to the old furrow and check system of irrigation.

Yours faithfully,
L. J. WICKS.

Highbury, S.A.

Full particulars from any of the following:—

Pope's Sprinkler and Irrigation Coy., (Patentees)

ROBERT STREET, CROYDON PARK, S.A.

Agencies: John Danks & Sons Pty. Ltd., Sydney.

John Danks & Sons Pty. Ltd., Melbourne.

Messrs. Clark & Faucet, Brisbane.

Messrs. Harris, Scarfe and Sandover Ltd., Perth.

Timm & Gerstenkorn

Fruit Auctioneers and Brokers
Fruchthof . HAMBURG . Germany

Established
1885

★
Special
Catalogues
showing
prices
issued
after
each sale



Tel. Addr.:
„Timmkorn
Hamburg“

★
Account
sales and
cheques
sent promptly
after sale if
desired cable
remittance

Phone :
F 4869

Vic. Rep. Consignments solicited * Advances if desired
BARKER, GREEN & PARKE PTY. LTD., 533 Collins St., Melb.

-LEMONS-

We are the largest Buyers
in Australasia

C. M. BROOKE & SONS
73 Whiteman St., South Melbourne, Vc.

Ship Your Oranges,
Lemons, Grapes to
New Zealand

Ⓜ
All consignments for
this market will have
careful attention and
realize highest prices
if sent to

**The Co-operative
Fruitgrowers of Otago
Limited, Dunedin**

Personal supervision of
every consignment.

Cheques posted promptly.
Drop us a Line or Cable
“Peachbloom,” Dunedin.

SPRAYING

A. H. McDONALD & Co. PTY. LTD.

Horticultural Department at your Service

Expert advice from the greatest authority on Spraying Problems in the State is available to you. Orchardists everywhere have availed themselves of the information, and bigger results thus secured. Get particulars of pests, diseases, and how to deal with them.

Spray Book Free Send for your copy now—it is a handy guide and full of valuable information.

Full Stocks of Most Efficient Spray Materials

The concentrated efforts of experts guarantee absolute satisfaction.

The Famous 604 Motor Sprayer

The most efficient sprayer in use to-day—Outside Valves, Porcelain Lined Cylinder, Special Plunger, Special Pressure Regulator.

Catalogue Mailed Free.

A. H. McDONALD & Co. PTY. LTD.
570-4 Bridge Rd Richmond, Victoria

12 Minutes from City. Take Flinders Street Tram.
N.S.W. Address: 25 Clarence Street, SYDNEY.
S.A. Address: 134 Waymouth Street, ADELAIDE.
Queensland Address: 187 Stanley Street, SOUTH BRISBANE.

(W. McF.)





